

1983

# The computer and the secondary school English curriculum

Marjorie Schmieder

Follow this and additional works at: <http://scholarworks.rit.edu/theses>

---

## Recommended Citation

Schmieder, Marjorie, "The computer and the secondary school English curriculum" (1983). Thesis. Rochester Institute of Technology. Accessed from

This Thesis is brought to you for free and open access by the Thesis/Dissertation Collections at RIT Scholar Works. It has been accepted for inclusion in Theses by an authorized administrator of RIT Scholar Works. For more information, please contact [ritscholarworks@rit.edu](mailto:ritscholarworks@rit.edu).

ROCHESTER INSTITUTE OF TECHNOLOGY  
SCHOOL OF COMPUTER SCIENCE AND TECHNOLOGY

THE COMPUTER AND THE SECONDARY SCHOOL ENGLISH CURRICULUM

A thesis submitted to the  
Faculty of the School of Computer Science and Technology  
in partial fulfillment of the degree of  
Master of Science

BY: Marjorie F. Schmieder

Approved by:

\_\_\_\_\_ Peter H. Lutz

\_\_\_\_\_ James R. Carbin

\_\_\_\_\_ Rayno D. Neimi

DATE: 4/13/83

I, Marjorie F. Schmieder, hereby grant permission to the Wallace Memorial Library, of R.I.T., to reproduce my thesis in whole or in part. Any reproduction will not be for commercial use or profit.

April 18, 1983

## TABLE OF CONTENTS

1. Introduction .....	1
2. Historical Perspective .....	4
3. Structured Development of CAI .....	16
4. Definition of Goals .....	19
5. Design of the Learning Experience .....	24
6. Program Design .....	34
7. Evaluation and Revision .....	49
8. Conclusions .....	63
Appendix A - The Tutorial and Drill .....	66
Algorithm .....	67
Teacher's Instructions .....	86
Tutorial Frames .....	94
Drill Frames .....	147
Drill Introduction Frames .....	170
Appendix B - Student Record Keeping .....	195
Algorithm .....	196
Teacher's Instructions .....	202
Appendix C - File Maintenance .....	215
Algorithm .....	216
Teacher's Instructions .....	223

File Descriptions .....	229
Bibliography .....	238

## CHAPTER 1

### INTRODUCTION

When speaking of English education in the 80's, Shuman states that when intelligently used, the computer "can provide a tailor-made, personalized tutor, instantaneously amusing, correcting, encouraging, and reinforcing, even calling the individual student by name and referring to past events that have transpired between student and computer - in short, paying all the personal attention that harried English teachers wish they had time for" [Shum81].

Traditionally, the study of English at the secondary level has language, literature, and composition as the core subject matter. Language involves study of the history of English - tracing its roots, and the impact of other languages on these roots to form current syntax, vocabulary and grammar [Jayc79]. Whether the lesson is vocabulary development, sentence structure or spelling, the teacher must find an approach that is suitable for a wide variety of student abilities. It is here that the computer can be a valuable instructional aid, for it can simultaneously give a bright student a challenging level of instruction or drill, while offering a different selection to both the average and slow student.

The teaching of literature includes many topics with emphasis varying from course to course. One may emphasize genre: contrasting poetry with the short story, the novel and the drama, while another may involve relating the works and the lives of their authors to historical developments of the

period in which the works were written. In any study of literature, attention will always be given to such essential elements as: character, setting, plot and theme (for prose); and rhythm, rhyme, meter and theme (for poetry) [Jayc79]. Again, as with language, the computer can help the teacher by providing for the individual differences among students. Certainly, tutorial as well as drill and practice CAI would be appropriate for these subjects. In addition, simulation programs could help the student consider various potential resolutions to a plot. Creation and analysis of poetry also has many possibilities under the guidance of a computer program.

The computer can be an effective teaching aid for composition as well. Through the use of a text editor, a paper may be formatted, errors corrected and organizational changes made without retyping the entire paper. In fact, the gathering and structuring of topics for effective presentation could also be accomplished via CAI.

Up to this time computer usage in the English classroom is rather limited, and when it exists, it is frequently drill and practice. In an effort to expand the subject matter and methods of presentation available for the students at Wilson High School, Rochester, New York, a series of programs on business letter writing was developed as the project for this thesis.

Chapter 2 gives the reader a brief look at the development of computer usage in American education with some specific examples of courseware within the secondary English curriculum currently in operation. The special features of the curriculum at the Wilson School of Science and Technology are examined in order to provide an insight to the ultimate user of the thesis project. The chapter concludes with a brief excursion into the

future and the issues that will affect CAI in the next decade.

Chapter 3 presents the structured methodology for the development of instructional systems which is known to educators as "educational technology". The four phases of this methodology will form the nucleus of this paper. The development of instructional objectives (phase one) is covered in Chapter 4 while the steps taken in the design of the learning experience (phase two) and the specifications for the Business Letter Writing course make up Chapter 5.

Issues concerned with the design of the courseware such as machine selection, screen design, question format, answer processing and feedback will be covered in Chapter 6. The evaluation and revision of the courseware (phases three and four), so important to the development of successful CAI, can be found in Chapter 7. In Chapter 8, the reader will find an evaluation of the structured methodology used for the thesis project, as well as suggested revisions and new developments recommended for future users of the courseware.



## CHAPTER 2

### HISTORICAL PERSPECTIVE

Computer applications in the United States public school system fall into two basic categories, administrative and instructional. Administrative services are currently the most prevalent application, in fact, the most recent study done for the National Institute of Education (DHEW) shows that 78% of secondary schools are using computers in association with student accounting, library functions, management of educational resources, guidance and testing. Instructional uses of the computer, which are those that involve learning "about" the computer, and those that involve learning activities "assisted by" the computer are available in 38% of the schools [Brun79].

Learning activities that are assisted directly by a computer are covered by the term computer-assisted instruction (CAI). When the use of the computer is expanded so that it plays a central role in guiding the learning of the student and in the evaluation of his performance, the term becomes computer based or computer-managed instruction (CBI or CMI). CAI concentrates on detailed and highly interactive instruction by computer for a limited segment of course content, while CMI can be characterized as being extensive, managing instruction throughout a large body of course content, providing instruction by computer as well as directing the learner to other sources of information available on the topic.

According to Eric Ashby, the British technologist, there have been three great revolutions in education: the forming of schools, the emphasis on writ-

ing as opposed to speech, and the invention of the printing press. He states that the use of computers in education will be the fourth revolution [Knap80].

The use of a machine to assist in education was first suggested in the mid 1920's by Sidney L. Pressey. At Ohio State University he introduced a teaching machine which presented information, tested comprehension, and gave prompt knowledge of results in a learning situation. B.F. Skinner furthered the idea of teaching machines in the 1950's with his efforts to provide learning based on changes in behavior. The application of an underlying science to the learning process received its initial emphasis from Skinner [Wats72]. He helped focus the interest of educators on the possibility of individualizing the instructional process through the use of programmed learning via the teaching machine. There was a surge of interest in programmed instruction based on Skinner's theories, however, the actual results fell short of initial predictions. Further research in the theory of learning moved educators away from Skinner's behavioral theory, but the advent of the digital computer caused them to continue their search for an effective way to combine machines and education.

The earliest users of CAI were members of the computer industry, who in the late 1950's used CAI programs to train their own personnel. For example, Uttal at IBM connected several terminals to a computer in order to teach stenotyping [Bitz76].

One of the first efforts to build a CAI system was the installation of the PLATO (Programmed Logic for Automatic Teaching Operations) program at the University of Illinois in 1959. The goal of the program was to

determine the potential of CAI in education. In its early stages, PLATO was a single terminal system used for teaching computer topics as well as math and language drills. By 1962 PLATO was expanded to provide the first multiple terminal system (20 terminals maximum).

Stanford University, Pennsylvania State University, Florida State University, The University of Texas, The University of California at Irvine, The U.S. Naval Academy, Coast Community College and Ohio State University are just a few of the other educational institutions that created centers for exploring CAI in the 1960's. The program at Stanford University began in 1963 with a grant from the Carnegie Foundation to the Institute of Mathematical Studies in the Social Sciences. The initial goal of this project was to establish a CAI laboratory at a public elementary school in order to provide results developed over an extended period of time. IBM designed its System 1500 in conjunction with this project which provided instruction in mathematics and language arts for elementary school students. The Stanford-Brentwood Laboratory, the first installation of its kind in an actual school environment, produced significant gains in student achievement during the first two years of operation. The value of the drills was seen to be in the degree of individualization of activities made possible by the collection of data about the student during program operation.

Philadelphia was the first major public school system to implement CAI independent of university development or sponsorship. Philadelphia was followed closely with the 1967 installation of 100 terminals for use in arithmetic drill and practice in selected New York City elementary schools [Atki69].

Of tremendous impact on the development of CAI was the increasing aid to education provided by the National Science Foundation and the various funding agencies which came into being under the Elementary and Secondary Education Act of 1965.

In 1970 the American Institute for Research, under the sponsorship of the National Science Foundation, completed the first comprehensive survey of computers in the public secondary schools of the United States. Prior to this time only sketchy data were available regarding the extent and type of use of computers. Administrative uses were categorized as resource management, planning, payroll, personnel records, counseling and student accounting. Those instructional applications listed were CAI, drill and practice, teaching computer science, gaming and simulation. In 1975 another study was made by the same organization to update these figures. Figure 2.1 summarizes the results of these studies [Koro75].

---

Computer Usage in Public Secondary Schools

	<u>1970</u>	<u>1975</u>
non-users	65.6%	47.3%
users	34.4	52.7
administrative only	21.5	29.5
instruction only	3.9	4.5
both applications	9.0	18.0

Figure 2.1

---

The Minnesota Educational Computing Consortium (MECC) was formed in the early 1970's by the University of Minnesota, The State University System, The Community College System and the State Department of Education involving 433 school districts. The consortium was to coordinate planning for educational computing and to deliver computing services to institutions that could not otherwise afford to do so. The time-share computer network, installed in 1974, has since grown into the largest network of its kind in the world [Rawi81]. Currently the system has a Control Data Corporation CYBER73 with 2000 on line terminals providing 75% of the school districts with instructional computing facilities. With the advent of the microcomputer, MECC has added 2000 Apple II's to its inventory of computer equipment. A library of 400 instructional applications in a wide variety of content areas has been established.

At a similar time, the TICCIT project was developed jointly by Brigham Young University and the Mitre Corporation. Fairly standard English and mathematics courses for the community college level student were developed at BYU under the direction of C. Victor Bunderson. The most distinctive feature of the project has been the effort to use an instructional strategy focused on learner-controlled courseware. Evaluation done by the Educational Testing Services found that when used as a scheduled part of the class activities, TICCIT students did significantly better than non-TICCIT students.

By 1975 PLATO IV was delivering over one million hours of instruction covering over 100 subject areas. The terminal used by PLATO IV is capable of superimposing computer graphics and slide images, speaking to the student and detecting where the student touches the display.

In 1977 Time Share Corporation began development of their Dolphin Educational System which is a set of learning programs in reading, language arts and mathematics. Dolphin programs are designed around the concept that the teacher knows the student best, and should have complete flexibility in determining each student's curriculum [Lind81]. Each component of the Dolphin program is made up of a series of "skills". The teacher assigns the skills to be studied when a class is enrolled. Each individual skill or a skill group can be assigned for a single student, class or designated group within a class. The student having trouble with a particular skill is put in the prescriptive area of the Dolphin program. Here the student may be directed away from the terminal to one of the following:

- o a local reading program
- o a related subject area
- o additional exercises in a local workbook

The specific prescriptions available for each student are under direct control of the teacher.

The language arts component of the Dolphin English program covers skills in grammar, usage and mechanics. The grammar section provides students with guidelines for the standards of syntax and effective written and oral communication. Sentence structure and parts of speech are the two main topics of the usage component, while the mechanics skills cover capitalization and punctuation.

The reading component consists of a word attack segment that teaches phonics, structure and context, as well as vocabulary skills. A study skills segment is also included to teach the use of informative materials such as

the use of an encyclopedia, dictionary, card catalog and parts of a book.

Computer Curriculum Corporation provides drill and practice courses that supplement regular instruction in the basic skills, especially in math and reading. These programs are a direct outgrowth of the work at Stanford by Dr. Patrick Suppes, currently CCC president. The CCC curriculum is made up of many instructional strands. A strand represents one content area and is a string of related items where the difficulty progresses from easy to hard. Extensive records are kept of the student's position and performance for each strand, allowing the program to determine the direction of a student's work and the level of difficulty of the chosen strand. According to Dr. Suppes, in 1979 more than 150,000 students (most classified as disadvantaged or handicapped) were using the CCC courses on a daily basis in school districts in more than twenty-four states [Supp79].

The 1979 report on computer usage done by HBJ Enterprises indicates a dramatic change in attitude towards computer involvement. "Whereas, in 1970, those schools without computers generally expressed no interest in them, in 1979, only 13% of those without computers still held a 'no interest' position" [Brun79]. This study also shows a tremendous increase in the use of computers, with over 78% of the secondary schools reporting some usage and a very limited number restricting it to administrative uses only. In the instructional areas, the two most frequent applications were for teaching mathematics(49%) and for teaching computer science (21%). The frequencies for other subject areas included in the study were science (14%), reading and languages (9%), and social sciences (5%) [Brun79].

At about this time the Human Resources Research Organization (HumRRO) did an investigation into the use of computers in high schools throughout the country. Schools regarded as outstanding in their use of computers for learning and teaching were classified as "exemplar schools". HumRRO has fully documented the programs of 10 of these schools in order to provide a broad representation of state of the art applications [Harg78]. Figure 2.2 provides a listing of the applications available within the English curriculum at these schools. It should be noted that the use of the computer in this capacity plays a minor role in the total usage of the machines.

The Joseph C. Wilson High School, Rochester, New York, houses two magnet programs: the Academy of Excellence and the School of Science and Technology. As a magnet school, its curriculum is designed to be of such high quality that it will attract students from all over the county to come to Rochester's inner city.

The curriculum for the School of Science and Technology was developed by District staff in cooperation with personnel from local industries and universities. It emphasizes preparation of students for productive careers in scientific theory and technology. The course of study, offering levels of instruction for both college and non-college bound students, requires 23 1/2 units for graduation including:

- o 4 years of English
- o 1/2 year technical writing
- o 3 years of social studies
- o 4 years of math
- o 4 years of science
- o 3 1/2 years of science/technology courses  
such as computer programming, photography,  
optics, electronics and industrial chemistry



---

### Instructional Computing in the English Classroom

- Ridgewood High School - New Jersey  
remedial drill on homonyms  
demonstration of computer for speech class
- Riverdale Country School - New York  
grammar and spelling drills  
SAT vocabulary drills  
drills on punctuation and syntax
- Lincoln High School - Minnesota  
no usage
- George Washington High School - Colorado  
analysis of similes in Shakespearian plays  
HAIKU poetry program for AP English
- North Salem High School - Oregon  
no usage
- Huntington Beach Union High School - California  
spelling drill and practice  
tournament scheduling for speech class
- Chicago Public Schools - Illinois  
drill in reading and language arts (CCC)
- Dallas Independent School District - Texas  
sentence structures  
parts of speech  
poetry  
drill in reading and language arts (CCC)
- Alexis I duPont School District - Delaware  
remedial drill in reading and language arts

Figure 2.2

---

Wilson has extensive computer equipment providing a wide variety of applications. There is a Hewlett-Packard 2000 incorporated into a Time

Share Corporation computer system with twenty-five Data-Media terminals connected. This system is used exclusively for programming assignments in the Computer Literacy and Introduction to Programming courses.

Twenty-one Apple microcomputers are used for word processing, science simulations, social studies and programming when a language other than Basic is desired. The Apples have 64k of memory and support Fortran, Extended Disk Basic, Cobol and Pascal. Each machine presently has its own color monitor for graphics, but only six are equipped to support 80 character lines with upper and lower-case characters.

Thirty-two Computer Curriculum Corporation CCC-17 terminals are connected to a Nova computer. The CCC system is used for CAI in math, English, Science and Social Studies classes. Mathematics strands provide individualized drill and practice in positive integers, fractions, decimals, percent, negative numbers, equations, inequalities, measurement and number theory. In addition, enrichment modules are available for sets, geometry, statistics, probability, logic, functions and graphics. Introduction to Algebra is a course designed to teach basic algebraic concepts.

The social studies section contains fifty lessons on the interpretation of graphs, charts, and prose selections on such topics as history, economics, geography, government, current affairs and anthropology. Each of the science lessons begins with a reading selection in the textbook followed by exercises which cover the following topics: astronomy, biology, health, chemistry, earth science and physics.

English students may be enrolled in one of six programs. The Basic Reading, Remedial Reading, Language Arts and Reading for Comprehension

programs are individualized drill and practice sessions, while the Critical Reading Skills and Survival Skills for Reading combine tutorial and practice lessons.

Thus we can see that the digital computer is playing an increasingly important role in American education. It is impossible to state what the final outcome of Eric Ashby's fourth educational revolution will be, because that revolution is still in its infancy. However, there are several issues that will effect the foreseeable future.

Current technological trends toward miniaturization, improved capabilities and reductions in cost will be a dominant factor in making it possible for all students to have access to a computer [Atki78]. The combination of videodisc and computer presents exciting possibilities, for it will enable motion pictures, graphics, text, animation and sound to be interspersed at any desired location in CAI courseware.

If education is to make use of these expected hardware advances, then the development of software must be a priority. At the current time, there is a severe shortage of quality courseware, and CONDUIT is the only nationwide distribution network for courseware that exists. The portability requirement made by this organization limits the courseware available for distribution.

Research in cognitive psychology and instructional systems will further educators' knowledge of how people learn, and it is essential that this knowledge be applied to CAI. Much of the AI research that is currently taking place will have profound implications for CAI. The experimentation with intelligent, knowledge-based instructional systems has produced a

learning environment where the system will so thoroughly understand the subject domain and the student's grasp of the subject matter that it will be able to answer questions, evaluate student theories, critique solution paths and provide remediation as needed [Brow77].

According to Richard Atkinson, Director of the National Science Foundation, "the ever-widening acceptance and use of computers by scientists, engineers and businessmen, and the broad public enthusiasm for programmable calculators and computer-based games is producing a transformation in social values... so broad that it (the computer) will be viewed as an educational necessity" [Atki78].

## CHAPTER 3

### STRUCTURED DEVELOPMENT OF CAI

The design of learning experiences along with the means of their implementation, evaluation and revision has developed into a field of study currently called "educational technology". Romiszowski has defined it as the development and evaluation of curricula through the application of scientific methods [Romi81]. There are four basic phases (see Figure 3.1) involved in the design approach taken by proponents of an educational technology.

In the first phase, a description is developed about the students for whom the learning experience is to be designed, including such things as the range of background, interests and attitudes. Based on these facts about the student and the general educational goal, objectives that state what the student should be able to do as a result of the learning experience must be specified. Finally, tests are designed that will be used as a criterion for evaluation when checking the extent to which objectives have been attained.

The second phase involves the design of the learning experience. Each of the elements that are to be learned must be identified and effective ways of sequencing them determined. Once this has been accomplished, it is necessary to decide upon both the teaching strategy and upon the media (lecture, discussion, field trip, role playing, film, textbook, CAI) that will be most effective in providing the learning experience. The final step in this phase is the actual preparation of lessons.

---

### Phases in Curricula Design

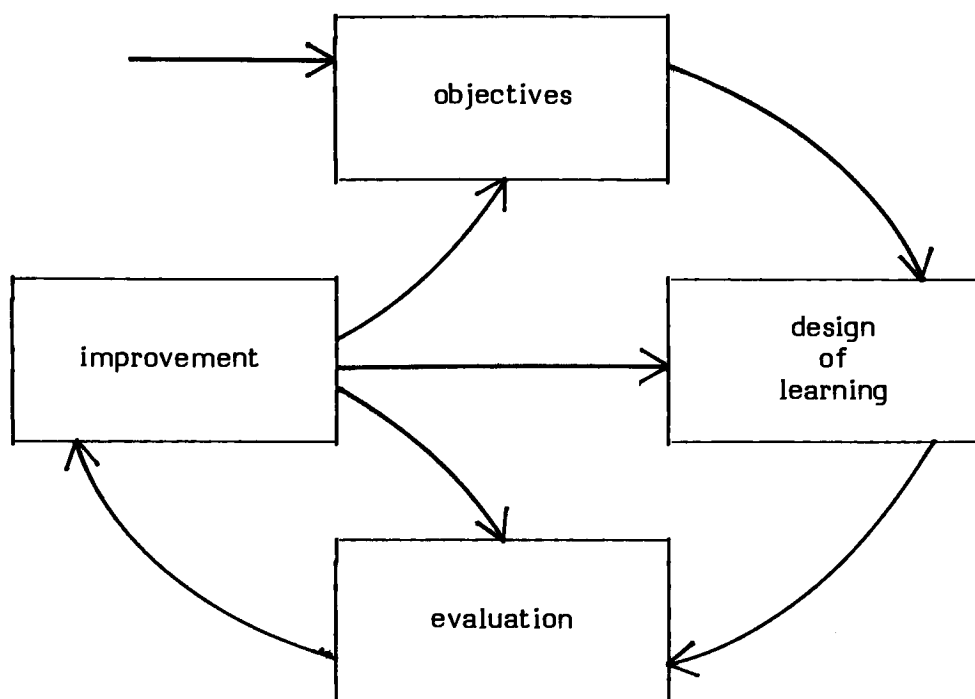


Figure 3.1

---

In the evaluation phase, the lessons designed in phase two are used and the results analyzed. It must be determined which objectives were most widely attained, which were not, and if there were any unplanned objectives attained. This evaluation must follow the plan devised in phase one and can include such things as paper and pencil tests, interviews or informal observations of the student at work.

The last phase is improvement of the learning experiences, in light of the evaluation, so as to better achieve the objectives. Perhaps the objec-

tives were over optimistic for the particular group of students using the learning experience and need to be changed. If desired objectives were not achieved, then the particular lessons teaching those objectives must be expanded or corrected to better provide learning about the topic. Revision is probably the most important step in the development of courseware, for it guarantees that there will be constant upgrading in an effort to provide the best learning experience possible [Rown74].

The detailed design algorithm used in the development of the Business Letter Writing course is as follows:

```

REPEAT
  REPEAT
    PREPARE OBJECTIVES
  UNTIL ACCEPTABLE, MEASURABLE OBJECTIVES STATED.

  REPEAT
    REPEAT
      REPEAT
        DESIGN LESSONS
      UNTIL SATISFACTORY LESSONS COMPLETE.

      REPEAT
        CODE FOR COMPUTER USE
      UNTIL NO ERRORS.
    UNTIL LESSONS ACCEPTABLE ON CRT (TEACHER EVALUATION).

    TEST ON AN INDIVIDUAL STUDENT
  UNTIL STUDENT FINDS NO PROBLEMS WITH PROGRAM.

  USE IN CLASS SETTING

  EVALUATE PROGRAM
FOREVER.

```

## CHAPTER 4

### DEFINITION OF GOALS

Instructional goals are usually stated in broad, general terms indicating the outcome of a student's using a given set of instructional materials. On the other hand, instructional objectives are much more narrow in scope, and are most frequently stated in behavioral terms. Such instructional objectives should clearly indicate the observable behavior which is the desired outcome of the learning process.

The idea of behavioral objectives was first suggested by educational psychologist Ralph Tyler in the 1940's. More recently, systems for defining different types of objectives in ways that lend themselves to evaluation and measurement have been devised by Robert Gagné and Benjamin Bloom [Knap80]. Hartly suggests that the major contribution of the behaviorist approach to learning and its application through the techniques of programmed instruction was the focusing on the behavior that was to be learned [Hart72]. Robert Mager's booklet "Preparing Instructional Objectives", written in 1962, established a methodology for stating objectives in behavioral terms which had impact well outside the strict confines of programmed instruction.

Rowntree claims there are four major benefits that are derived from the specification of instructional objectives: [Rown74]

1. they enable clear communication
  - a) between teachers
  - b) between teacher and student



- c) between teacher and designer
- 2. they help you select and structure the content of the learning experience
- 3. they help you decide on appropriate learning activities and teaching media
- 4. they help you decide on appropriate means of evaluation and assessment

The general goal for the Business Letter Writing course is to help eighth grade English students master the skills necessary to write an effective business letter using accepted letter form. When the instructional objectives for this goal were developed, specific terms such as identify, select, construct, demonstrate and solve were used while understand, master, appreciate, acquire a feeling for, and be familiar with were avoided due to the fact that they are not easily measurable. The objectives state that each student should be able to:

- 1. name the parts of a letter
- 2. position the parts of the letter correctly
  - a) heading in upper-right corner
  - b) inside address at the left margin  
one line below the heading
  - c) salutation at the left margin  
two lines under the inside address
  - d) body under the salutation
  - e) closing two lines under the body,  
indented to line up with heading
  - f) typed name four lines under the closing  
with the signature between the closing  
and the typed name
- 3. describe the contents of each part of the letter
  - a) the heading contains
    - 1) the letter writer's street address
    - 2) the city, state and zip code
    - 3) the date the letter is written

- b) the inside address contains
    - 1) an individual's name (optional)
    - 2) the name of the firm or organization
    - 3) the street address of the firm
    - 4) the city, state and zip code
  - c) typical salutations are
    - 1) Dear Sir or Madam:
    - 2) Gentlemen:
  - d) the body contains the brief, courteous message to be communicated to the firm
  - e) typical closings are
    - 1) Sincerely,
    - 2) Respectfully yours,
  - f) the typed name is included to clarify the letter writer's signature
4. describe how to apply punctuation rules to the parts of the letter
- a) the city and state need to be separated by a comma
  - b) the day of the month is followed by a comma
  - c) the salutation is followed by a colon
  - d) the closing is followed by a comma
5. describe how to apply capitalization rules to the parts of the letter
- a) the names, titles and initials of people are always capitalized
  - b) the names of cities and states are capitalized
  - c) the names of months of the year are capitalized
  - d) the first word and all other nouns in the greeting are capitalized
  - e) the first word, and only the first, of the closing is capitalized
6. describe the information that should be contained in a letter of order
- a) a description of the item being ordered such as: name, catalog number, size and color
  - b) number items being ordered
  - c) where the item was advertised
  - d) the item price
  - e) the amount of money that is enclosed with the order
  - f) the method of payment - should be a money order or check (cash should never be sent in the mail)
  - g) the amount of any money enclosed to cover the cost of postage or handling

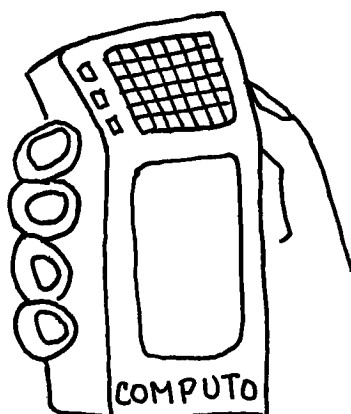
7. describe the information that should be contained in a letter of complaint
  - a) a description of the problem
  - b) any dates involved in the problem
  - c) a request for some kind of action that will solve the problem

The Business Letter Writing courseware is being designed for eighth grade English students at the School of Science and Technology. The regents class is to be enrolled in the drill only while the non-regents class will use both the tutorial and the drill. Students who have a high degree of self-motivation, a good attitude, a good attendance record and high scores on the metropolitan reading test are placed in regents level classes while students lacking in these characteristics form the non-regents classes. All of the students have a high interest in computers.

Having specified what is to be learned as well as the characteristics of the learner, the criteria for evaluation must be selected. Prior to enrollment in the course, the student will take the PCT English examination administered to all students in the school district. This examination consists of three writing assignments, one of which is a letter of order. The score on this portion of the test will serve as the student's pretest score. At the completion of the program, the students will again be asked to write a letter of order (see Figure 4.2) which will be marked for use as the post test score. Comparison of these figures will be used to evaluate the effectiveness of the courseware.

---

Post Test



COMPUTO MINIMICRO-COMPUTERS

Play any computer game you want! Select the game on this pocket-size computer. Easy! All you do is feed the computer the name of the game you want and the game appears on the screen. Comes in two models, #455 in black and white for \$29.95 or model #555 in color for \$39.95. Include an additional \$.75 for postage.

Send your check or money order today to: Clever Computer Company, 777 Bright Street, Miami, Florida 14633.

Write a business letter ordering one Minimicro-Computer for yourself. Be sure to specify the model you want. When you write your business letter, be sure to:

- o Plan what you will write
- o Give the company all the information it will need to fill your order
- o Use an acceptable business letter form
- o Write complete sentences
- o Check your spelling, punctuation, capitalization, and usage.

Figure 4.2

---

## CHAPTER 5

### DESIGN OF THE LEARNING EXPERIENCE

The development of objectives for a specified audience in phase one is followed by the design of a set of learning experiences appropriate for said objectives. Each objective must be examined to precisely determine the tasks the learner must perform in order to attain the information. Perhaps the most fruitful approach to such examination is based on the work of Robert Gagné. His work suggests that each major objective be analyzed to build a hierarchy of enabling objectives leading up to it [Rown74]. Once the terminal tasks are noted, skills or knowledge which are prerequisite for accomplishing the learning experience are known.

Next an effective way of sequencing the elements within the learning experience must be found. The subject matter may lend itself to chronological sequencing or perhaps it is best suited to a causal sequence. Sometimes, the structural logic of the subject matter will dictate a sequence. However, studies made by Robert Mager have demonstrated that the sequence preferred by the learner may depart dramatically from that considered logical by the instructor [Hart72]. Gagné's hierarchy, examined from terminal task to general objective also suggests a possible sequence, but it does not necessarily provide a unique sequence. It is entirely possible that the design team may choose to develop a network of possibilities, with any path open for the learner's use. The desired degree of learner control over the learning sequence will heavily influence decisions made at this stage.

A teaching strategy must also be chosen. Will the student be given a series of facts that lead him to develop the principle or will the principle be presented so that the student may substantiate it with facts? The teaching media should be selected using one or more techniques which will provide the optimal learning experience. The techniques available are: lecture, group discussion, field trip, CAI, role playing, film and textbook.

When the media selected is CAI, the specific category of usage must be determined. CAI has typically been subdivided by the type of instructional technique used.

DRILL AND PRACTICE provides time for the student to practice ideas that have been introduced elsewhere. Drill can be individualized by giving brighter students harder than average exercises and slower students easier problems. The categorization of ability need not remain static for all drill sessions.

TUTORIALS take over the main responsibility for the presentation of a concept and for developing skill in its use. It is meant to approximate the interaction a patient tutor would have with an individual student. Generally, as soon as the student demonstrates a clear understanding of a concept, based on his handling of a series of exercises, he is moved to a new concept and new exercises.

DIALOGUE CAI is learner directed. Here the learner poses a question and the computer program must be able to give an appropriate answer. Much of the work being done in AI is being used for this type of CAI, and while it is currently not the most frequently used strategy, great expectations are held for it in the future.

SIMULATIONS provide the student with the ability to do experiments too dangerous, expensive, difficult or time consuming to undertake in the real world.

GAMES can be very useful in increasing learner motivation, but must be included with other instructional strategies.

The team approach has proven the most effective method of developing courseware for CAI. Learning experiences should be created by competent teachers, or perhaps a group of teachers so as to better be able to help a

variety of students. These teachers should be experienced in the subject matter and should have dealt directly with students learning the type of material to be presented by the computer, for then they will be able to design textual information appropriate in both reading level and concept load for the students in question. A teacher who frequently interacts with students in a one to one situation is likely to be the best dialogue writer [Bork81]. When deciding how to present the lessons on the screen, a competent graphic designer should join the team so the most effective CRT layouts can be planned. Rounding out the team is a programmer who will translate the lesson plans into computer programs.

Unless the ultimate result is more effective teaching, more efficient teaching, or teaching of worthwhile material which cannot be covered otherwise, CAI should not be chosen as the teaching media. Some of the most prevalent reasons for CAI, and those that instigated the development of the Business Letter Writing courseware are:

- CAI provides for individualized needs of students

- CAI motivates students

- CAI helps the instructor optimize use of time by freeing him of routine tasks

- CAI enhances the instructor's potential by assisting in the diagnosis of problems and the evaluation of student progress

- CAI requires active participation by the learner

The Business Letter Writing courseware consists of four programs: the tutorial, the drill, letter and answer key file maintenance and student record keeping. The use of these programs by teacher and student is graphically portrayed in Figure 5.1.

---

Business Letter Writing, Student and Teacher Options

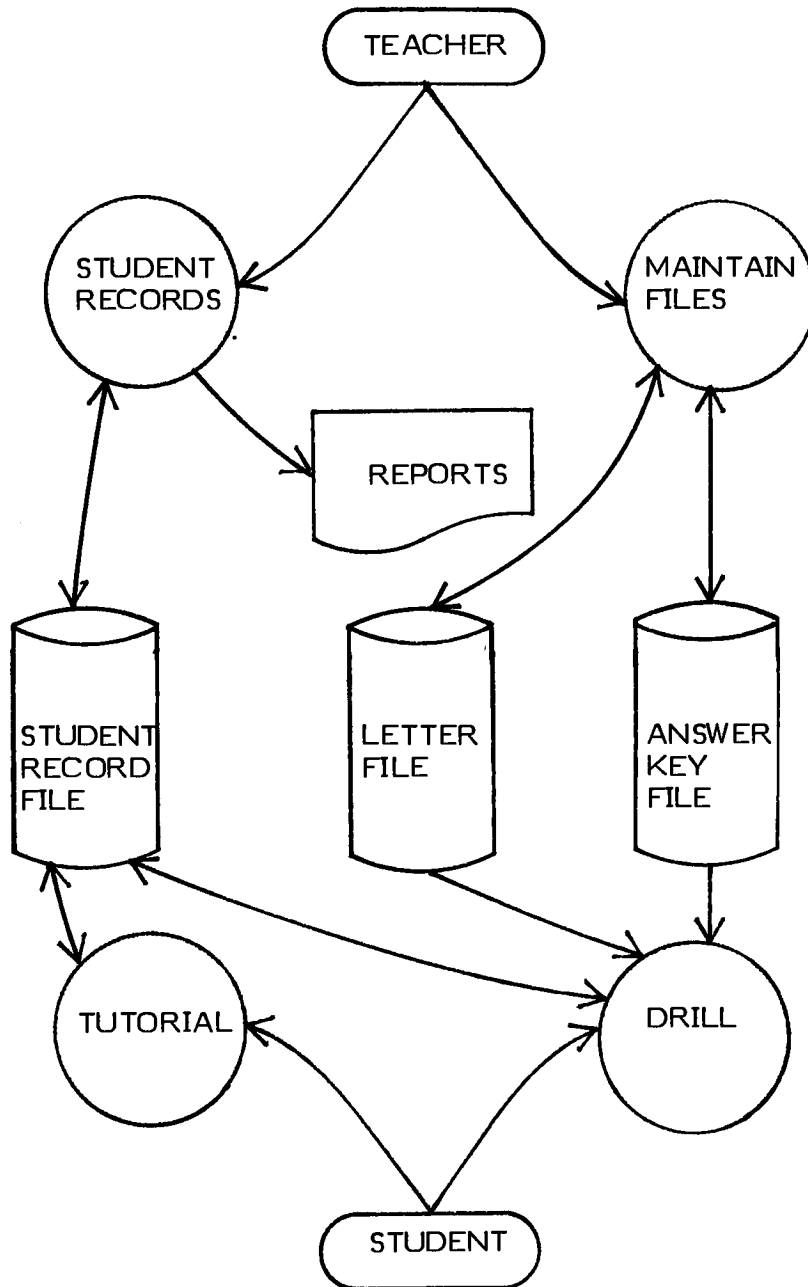


Figure 5.1

---



The first time the tutorial is used, the student receives an introduction to the topics that will be covered as well as some miscellaneous information about terminating the program. This material is presented only once. The actual tutorial frames are included in Appendix A for the reader not having access to a Time Share System.

The tutorial, consisting of lessons on letter form, capitalization, punctuation and content, has been designed for the non-regents student. The content of these lessons is as follows:

#### Letter Form

The parts of a letter are given along with a description of the information that must be contained in each part.

The heading appears in the upper right corner and consists of three lines: 1) the letter writer's street address 2) his city state and zip 3) the date the letter is written.

The inside address always begins at the left margin. It contains information about the organization or firm to whom the letter is sent. This information is the firm name, street address and city, state.

The salutation (or greeting) begins two lines under the inside address and also starts at the left margin. If a letter is written to a specific person, the person's name is used, otherwise a general greeting such as "Dear Sir" is used.

The body of the letter is where you state the purpose of the letter. It should be brief, courteous and to the point.

The closing appears below the body and usually lines up with the first word in the heading.

The typed name goes four lines below the closing and the letter writer places his signature between the two.

## Punctuation

In a date, a comma is placed between the day of the month and the year.

A comma is used between the name of a city or town and the name of its state. The zip code always follows the state name.

A comma always follows the closing of a letter.

A colon is used after the salutation of a business letter.

## Capitalization

The name of a person is always capitalized. Any titles used with the name are capitalized as well.

All words in the name of a company begin with a capital letter.

The name of a specific place is always capitalized. Names of streets, cities and states will begin with capital letters whenever they are used.

Months of the year are always capitalized.

The first word and all other nouns in the greeting are capitalized.

Only the first word of the closing is capitalized.

## Letter Content

There are two basic types of business letters that will be studied, the letter of order and the letter of complaint. All business letters have the same parts. These types are just different in what they have to say in the body of the letter.

The order letter must include specific details to make sure the desired item is received. Information about the amount and the method of payment is also included.

A letter of complaint should courteously state the problem and request some kind of action that will solve the problem.

All students begin the tutorial with a discussion of letter form. When analyzing the learning experience for sequencing, it was determined that the terminology and facts taught in this lesson were used by all other lessons so it became the first lesson on a mandatory basis. Since none of the other lessons contain such prerequisite information, the learner is given control of

the order in which they are studied.

It is not expected that the tutorial will be completed in one period of work at the terminal. The program records the student's progress as each logical segment of a lesson is completed, so that the lesson may be resumed the following week at the correct location.

The ordering of lesson segments followed the teacher's approach to teaching letter writing. It was her desire that the letter be covered starting at the top of the letter, thus when letter form is discussed, the heading comes first and the lesson concludes with the closing and signature. Selection of the order within the capitalization segment was completely arbitrary, for no significance in the order of teaching capitalization of names, places and dates could be determined. However, it should be noted that the rule for the salutation is covered before that of the closing. Again, in the punctuation lesson, the topic sequence was an arbitrary selection.

Within each lesson segment, a basic pattern for learning was chosen. First, a short lesson is presented and then an exercise based on the lesson is given. If the learner demonstrates his grasp of the material by satisfactory completion of the exercise, then he proceeds to the next lesson segment. If, however, the student has trouble with the exercise, then he is given a short remedial lesson and repeats the exercise. It is hoped, since the content of each lesson segment is kept to a minimum, that this remedial lesson is all that will be necessary. However, should the student still have trouble, a more comprehensive remedial lesson is given. Whenever possible, the remedial lesson is presented differently from the main lesson to maintain student interest.

Once the student finishes the lesson on letter form, the program displays the "Lesson Topic Menu" (Figure 5.2). From this point on, the learner is in control and may choose to review a previously covered topic or one of the topics not yet studied. The ability to go back to previous material before proceeding on to new material within the lesson has been shown to be an important factor in lesson effectiveness. When all four topics are studied, the student is automatically transferred to the drill program.

As the student moves from the tutorial to the drill, he encounters preliminary information on the drill and the grading system. Frames for the

---

#### Lesson Topic Menu

##### BUSINESS LETTER TOPICS

1. LETTER FORM \*
2. CAPITALIZATION
3. PUNCTUATION
4. LETTER CONTENT \*
5. END LESSON FOR TODAY

THE TOPICS YOU HAVE ALREADY STUDIED ARE FOLLOWED BY AN \*.  
YOU MAY REVIEW ONE OF THESE TOPICS OR CHOOSE A NEW ONE.

ENTER THE NUMBER OF YOUR CHOICE----->

Figure 5.2

---

drill are found in Appendix A. The drill is made up of a series of 20 letter exercises. For each exercise, an incorrect letter is displayed and the student is asked a series of questions. The questions begin with the analysis of the heading and proceed down the letter covering each part and the facts about that part learned in the tutorial. This follows the lesson sequence preferred by the advising teacher. The body of the letter is examined for content and all other parts of the letter are examined for errors in form, capitalization and punctuation. Questions on form always come before the analysis of punctuation and capitalization. While the student is answering questions, the program keeps track of the correct answers. Immediate informational reinforcement, in the form of letter grades for each topic, is provided at the completion of each exercise. With this knowledge, the student is prepared to make a reasonable choice on program alternatives offered following the presentation of the grades. The alternatives available are:

- o repetition of the letter for an improved score
- o study of a tutorial topic
- o progression to the next letter exercise

The pace of the drill is adapted to the particular needs of the student. When a student achieves a cumulative score greater than 93% on all four drill topics, the movement through the drill is accelerated by the skipping of letters. It is possible for the excellent student to complete the drill sequence after eight letters. The student having trouble with the drill obviously needs additional help. When a grade of D or E is assigned, an automatic review of the topic is scheduled. The program immediately transfers the student to the tutorial section/s and the student's record is

flagged with a "student needs help" comment; and when the weekly progress report is printed for the teacher, this fact is noted. The student is allowed to repeat an exercise until he achieves a score greater than 88% on all four topics, at which time the letter is marked "FINISHED". It was felt that excessive repetition would take place if perfection was required. Letter repetition was included to meet the needs of the student with high motivation to improve a grade with extra work.

It is possible for the teacher to enroll students in just the drill segment of the program. In this case, an abbreviated review of business letter topics is given in the introduction, assuming that instruction is obtained elsewhere. The frames for this introduction are included in Appendix A.

## CHAPTER 6

### PROGRAM DESIGN

The ideal system for the Business Letter Writing course would have the following characteristics:

- o one terminal for each student in the class
- o graphics capabilities
- o upper and lower case characters
- o sufficient disk storage to permit the development of the tutorial and drill programs with supporting programs for maintenance of student records and letter/answer key files
- o a printer available from each terminal under program control
- o structured programming language

Unfortunately, none of the computers currently available at Wilson High School have all the desired characteristics. The CCC system provides no graphics capabilities and has only upper-case characters; therefore, it was immediately removed from consideration. This was most unfortunate because it is the only system with sufficient terminals for a very large class, and the only one that supports printing from each terminal.

The Apple II microcomputers support graphics, reasonably convenient printing, and structured programming, but not enough are equipped to provide upper and lower-case letters. Since an analysis of capitalization is essential to the course, the Apples could not be used.

Fortunately, the HP-2000 provides enough of the desired characteristics to allow implementation of the courseware. The Datamedia DT80/1

terminals have upper and lower-case characters as well as terminal control instructions that compensate for the lack of graphics capabilities. The terminal is capable of displaying either 80 or 132 characters on each of 24 display lines. In addition, characters may be highlighted by reverse video, increased intensity, underline, and/or blink on a per character selection basis. Other CRT capabilities include split-screen, double wide or double wide and double high characters. See Figure 6.1 for a full description of the terminal operations. The major limiting factor of the HP-2000 was the absence of a structured programming language. Severe programming difficulties were anticipated, because the 1968 version of Basic that is implemented on the Time Share Corporation machine does not support string matrices and is limited to twenty-six string arrays.

When the CRT is used in CAI for presenting information, drawings and textual material must be placed on the screen in a way which readily permits the student to locate the relevant information. Graphics capabilities allow pictures which can offer information not available in other ways. Dr. Bork, having done extensive work with physics instruction via CAI, claims that the ideal person to be involved in screen design is a competent graphic designer, experienced in a field such as magazine advertising [Bork81]. All older CAI starts information at the left margin, but newer approaches place material on the screen in more interesting and exciting patterns, breaking text with spaces in the most effective manner.

Clarity of a lesson can be enhanced by the effective use of headings, appropriate writing style, highlighting or underlining. The Business Letter Writing course has incorporated many of the Datamedia DT80/1 terminal con-



---

### Terminal Control Sequences

**HORIZONTAL AND VERTICAL POSITION** - Moves the cursor to the position specified by the parameters.

**DOUBLE HEIGHT - DOUBLE WIDTH DISPLAY PRESENTATION** - When this video presentation is selected, each character occupies an area equivalent to two spaces wide and two character rows high. To achieve correct results, the exact same character strings must be displayed on two consecutive display lines.

**RESTORE CURSOR** - Restores the cursor position to the current home position.

**SET TOP AND BOTTOM MARGINS** - Defines the scrolling region by setting the top and bottom line limit within which scrolling may occur.

**SET GRAPHIC RENDITION** - The host computer may invoke the graphic rendition by a parameter in the control sequence. The selected renditions will remain the same for all subsequent characters transmitted to the display until the next occurrence of this type is received in the data stream.

**CURSOR UP** - Moves the cursor position upward the number of rows specified by the parameter without altering the horizontal position.

**CURSOR FORWARD** - Moves the cursor position right the number of positions indicated by the parameter.

**ERASE SCREEN** - Clears the screen of the current display according to the parameter specified. Clear entire screen, erase to end of current line, and erase from cursor to end of screen are some of the options.

Figure 6.1

---

control sequences in order to provide information to the student in a clear, concise, yet interesting manner. Each tutorial lesson has a subject title centered at the top of the screen in double height - double width presentation.

The textual information for each lesson is brief enough to allow presentation on one screen, because information should never terminate in mid-sentence. In addition to the text of the lesson, examples are provided to demonstrate the fact presented. They are displayed in large letters in an attempt to retain the student's attention.

It should be noted at this time, that the frame by frame method of presenting information has been demonstrated to be more effective than the less readable scrolling text display [Craw81]. Some of the lessons have been enhanced by the actual display of a business letter on the screen. In the tutorial, a small sample letter is placed on the screen using the reverse image terminal capabilities, allowing the letter to appear as if it were on a sheet of white paper. The lesson text is presented to one side while this letter is held on the screen providing reinforcement of the textual material. The drill also holds the business letter on the screen so that the student may refer to it when answering questions.

Lessons are more effective when text appears in a consistent fashion with recurring questions or explanations appearing at the same place on the screen every time [Craw81]. This fact led to the format used in the tutorial exercises and the design of questions in the drill. However, it is necessary to provide variety in the displays in order to hold the interest of the student so a minimum of three standard formats was developed.

The reverse image is used several ways in an effort to facilitate the student's effective use of the course. Whenever the student is entering an answer to a question, the program produces reverse video so that the student can easily see what he is entering. Since the students are not expert

typists, it is very important for them to catch typographical errors before the answer is completed. Highlighting is also provided whenever the program gives the correct answer to a question that the student has been unable to answer.

The kinds of questions that are typically used in CAI fall into the following categories: true/false, multiple choice, fill in the blank, matching and constructed response. The use of constructed responses gives the student practice in formulating their own answers for no choices are presented and the student is forced to answer from his own knowledge. Several levels of help may be offered when asking a question. Consider these alternatives to the identification of the first noun in a sentence.

- o show the sentence  
ask student to identify the first noun
- o display the definition of a noun  
show the sentence  
ask student to identify the first noun
- o display the definition of a noun  
give a sample sentence  
show the sentence  
ask student to identify the first noun

When possible, the type of response desired should be placed in parentheses in order to prevent confusion on the part of the student [Esp167]. For example:

- o Is the salutation correct? (Y/N)---->
- o Enter a number (1-5)---->

The standard multiple choice question presents all possible answers at once and asks the student to enter an answer. One possible variation of this

would be to display one alternative at a time and ask the student if the alternative is correct.

The Business Letter Writing course uses primarily questions of the constructed response and true/false variety with a few multiple choice interspersed when it facilitated the analysis of the student response. In the tutorial segment, the student is asked to construct dates, addresses, salutations and closings based on punctuation and capitalization rules that have just been presented. In addition, there are also short exercises where discrimination between correct and incorrect examples must be made. In the drill, questions are generally presented in a sequence of two. First, the student must decide if the displayed part of the letter is correct, and then if it is not, he must construct what he believes to be correct.

If the student makes an incorrect response to a question, a hint is given that will help the student make a correct entry when he tries again. Two tries are allowed unless the question is of the true/false variety where it is obvious that if one answer is wrong the other must be correct. If the student misses on the second try, the program gives the correct answer and moves to a new question. Under no circumstances should a program trap the student in a loop that requires a correct answer in order to exit. The option to stop, move to material in an easier format or request extra help must exist so the student does not meet with total frustration when he reaches a difficult lesson.

Questions should be given one at a time. Entering several answers at the same time is confusing to the student, and can complicate answer evaluation algorithms. The student should always be made aware of when he

is to enter a response. For example, in a multiple choice situation, the student should be told to enter the correct number, not just given a list and expected to reply.

When analyzing the response made to a question, a provision for alternate answers should be made which is as flexible as possible concerning what will be acceptable. When the response is not one of the acceptable answers, the program can make an appropriate comment and then repeat the question. Answers should also be edited for undesirable input. If student input were to be used as the divisor in a mathematics problem, then it should be checked for the value 0. Program termination with a "DIVISION BY 0 IN LINE 846" error message would be disastrous. The inclusion of a profanity checking routine has also been suggested [Craw81].

Answer processing for the T/F and multiple choice type question is very straight forward. It is the analysis of constructed responses that presents the biggest challenge to the CAI programmer. An exact match of a response causes problems when word order, spacing or typing errors may affect the outcome. A more effective method is the matching of the response with one or more key words which the author believes to be an indication of the correct response. Spelling or typing errors can be bypassed if only part of each key word is used. An answer processor that phonetically encodes responses would be another means of avoiding spelling and typing accuracy. One such processor is as follows: [Fred80]

1. break answer into single characters
2. sequentially convert each single character into its phonetic equivalent using the Planit Phonetic Algorithm

3. reassemble phonetic character equivalents into a string
4. make a comparison to a phonetic equivalent answer specified by the author

Answer processing in the Business Letter Writing course uses information stored in an answer key file. Each key holds the correct answer for T/F and multiple choice questions, key word matches for constructed answer questions as well as comments to be given the student based on their answer. It was anticipated that spelling and typing would present tremendous problems to the student for whom this program was developed, so exact matches were not used. Instead, portions of the key words were used as follows:

<u>key word</u>	<u>match selection</u>
heading	"ead"
inside address	"dre"
salutation	"salut"
closing	"los"
signature	"igna"

The portion used as a key was generally selected based on the first syllable of the word. The initial letter was removed from the match to eliminate any problems should the student capitalize his response. If the remaining key was less than three letters, then the second syllable was included in the key.

In many CAI courses the response of the student is timed, and when this period becomes too long it is equated with the assumption that the student is finding the question too difficult. Elaborate programs have the

ability to reduce the level of difficulty until such time as the student makes responses within an acceptable period of time. The timing of student responses was one feature of CCC materials that the advising teacher did not like, so she specifically requested that this course not include timing of any sort.

Once the student response has been analyzed, it is necessary to provide feedback, which is defined as any response by the computer to input from the user. The immediateness of feedback has been shown to hasten the acquisition of the information being learned. CAI programs have two classifications of feedback, one being the computer response following answer analysis and the other informational, providing the learner with a record of his performance as well as progress through the course [Craw81].

Informational feedback is presented in the Business Letter Writing course in several ways. When the student begins the tutorial, he is informed of the topics to be covered; and when the topic menu is presented, those subjects that the student has already studied are so marked. In this way the student is always aware of those topics he must study before completing the program.

The drill also provides the student with informational feedback. At the completion of each letter drill, the student is given a letter grade for each of the four topics: punctuation, capitalization, content and form (see Figure 6.2). Also available is a "progress report" by which the student can assess movement through the twenty letter drills (see Figure 6.3).

When providing feedback following answer processing, even the statement of right or wrong can aid the student in acquiring new material. One

---

Informational Feedback - Student Grades

YOU HAVE JUST COMPLETED LETTER # 13  
YOUR GRADES FOR THIS LETTER ARE:

LETTER CONTENT - B

LETTER FORM - A

PUNCTUATION - B

CAPITALIZATION - B

COMMENT - REPEAT ALLOWED

Figure 6.2

---

Informational Feedback - Progress Report

HERE IS YOUR PROGRESS REPORT

<u>LETTER</u>	<u>COMMENT</u>	<u>LETTER</u>	<u>COMMENT</u>
1	LETTER FINISHED	11	REPEAT ALLOWED
2	REPEAT ALLOWED	12	REPEAT ALLOWED
3	LETTER FINISHED		
4	LETTER FINISHED		
5	LETTER FINISHED		
6	LETTER FINISHED		
7	IGNORED		
8	IGNORED		
9	REPEAT ALLOWED		
10	REPEAT ALLOWED		

YOU MAY REPEAT ANY OF THE LETTERS LISTED ABOVE EXCEPT  
THOSE MARKED FINISHED.

Figure 6.3

---

step beyond the simple "correct" is to give the student additional



information. The frame in Figure 6.4 is a sample of positive reinforcement and confirmation of the facts causing the answer to be correct.

When an answer is incorrect, it is useful to provide the learner with an appropriate diagnostic message, rather than saying "no, that is incorrect... let's try again". Supplying the learner with a hint can help him give the correct answer when he indeed does try again. It is very important to be able to respond reasonably to wrong answers. When the capitalization and punctuation is analyzed in the learner's constructed response, the program is

---

#### Positive Reinforcement

Dear Sir:

I am planning a party and I would like to order some of your birthday items.

I am sending you a check for \$7.50 which is enough to cover the party items as well as postage.

yours truly  
Jennifer Vergo  
Jennifer's signature

THE SECOND PARAGRAPH SHOULD TELL HOW THE PAYMENT IS BEING MADE AND SHOULD SPECIFY THE AMOUNT OF MONEY BEING SENT.

DO YOU THINK

1. IT LOOKS GOOD.
2. THE METHOD OF PAYMENT IS MISSING.
3. THE PAYMENT AMOUNT IS MISSING.

ENTER THE NUMBER THAT REPRESENTS YOUR ANSWER---->?1

TERRIFIC.

JENNIFER WAS RIGHT TO SEND A CHECK AND TO GIVE ITS AMOUNT.

Figure 6.4

---

able to respond with a combination of comments for each topic. The sample frame shown in Figure 6.5 illustrates the type of hint that a student will receive when his answer is marked wrong. These hints assist the student when he is entering his second try. Most of the comments displayed for the student are held in the answer key so that the hints are individualized to the specific letter being examined. This makes the student/computer dialogue contain more variety and hopefully makes it more interesting.

Another factor to consider when the student makes an incorrect response is the kind of comment being used to indicate the error. Judgmental comments such as "Wrong, turkey", "That was a stupid answer", or "With a score like that, you should hit the books" should be avoided entirely [Haus81]. It is also crucial that incorrect responses are not positively reinforced. Incorrect answers should not cause flashing lights, sinking ships, explosions or other interesting events [Craw81].

It is interesting to note that problems develop with the giving of rewards for correct answers, including such things as playing a song, providing a clever animation or providing a piece of a puzzle for each correct answer. They are often used to make the lessons more interesting, but the pitfalls of using such rewards must seriously be considered before they are included. It is possible that the reward may be a distraction if the student concentrates more on the reward than the material. The number of times a student will see the reward is also an important consideration. What is fine the first time it is seen, can be very boring by the twentieth time. Feedback for frequently used programs should be brief and informative, while more elaborate feedback can enhance a program designed to be run only

---

Diagnostic Message For Incorrect Answer

dear sir.

I am planning a party and I would like to order  
some of your birthday items.

I am sending you a check for \$7.50 which is  
enough to cover the party items as well as postage.

yours truly  
Jennifer Vergo  
Jennifer's signature

THE SALUTATION FOR THIS LETTER IS  
dear sir.

IS THE SALUTATION CORRECT? (Y/N)---->y

NO.

CAPITALIZATION IS NEEDED AND THE PUNCTUATION IS WRONG.  
ENTER THE SALUTATION AS YOU THINK IT SHOULD BE WRITTEN

---->?Dear sir

CAPITALIZATION:

NOT QUITE.

ALL NOUNS MUST BE CAPITALIZED IN THE SALUTATION.

PUNCTUATION:

I DON'T THINK SO.

A COLON IS ALWAYS PLACED AFTER THE SALUTATION.

PLEASE ENTER THE LINE AGAIN

---->?Dear Sir:

CAPITALIZATION:

GOOD ANSWER.

ALL NOUNS IN THE SALUTATION ARE CAPITALIZED.

PUNCTUATION:

VERY GOOD, YOU CORRECTED THE PUNCTUATION.

Figure 6.5

---

once.

There are several techniques that can be used to make the interaction between student and computer as smooth as possible. Of prime importance is the analysis of input and the flexibility of answer acceptance already discussed. If the student makes an incorrect data entry, the program must provide the student with a reasonable statement indicating what went wrong and how the situation can be corrected. The version of Basic used by Time Share Corporation makes the total analysis of entry errors impossible, because the depression of just the "return key" does not place a CR/LF in the input stream. Rather it causes the system to produce the CR/LF followed by the display of another question mark indicating it is still waiting for input. In all other cases, however, it is possible to analyze student input and make a reasonable response concerning the expected input.

```
IS THE SALUTATION CORRECT? (Y/N)---->?u
ENTER (Y/N)---->?
```

```
ENTER THE NUMBER OF THE LETTER TO REVIEW---->?55
ENTER NUMBER (1-20)---->?
```

The author should make sure that the keys always perform the same sort of function so that the student does not have to learn extensive facts about an unfamiliar keyboard. The Business Letter Writing course only makes use of one special entry, the control-C exit character, so this was not a design factor. To help remove the impersonal nature of the computer, the program can greet the student by name, and can use it occasionally during the lesson. Any reply to the student should be used selectively, for repetition of the same statement can be very annoying. It is for this reason that this course uses both positive and negative responses selected at random from a response file. The wide variety of comments available in the answer

key also helps avoid the monotony of seeing the same statement for each exercise. The problem of monotony can also be combatted by the variation of screen design as discussed in Chapter 5.

Another factor which develops a positive attitude in the student using CAI is called "learner controlled instruction". Historically the CAI author wanted to maintain strict control over the learner and the learning environment. However, more recent work has shown that an approach that grants more control to the learner may account for increased student motivation as well as more effective learning. Such learner control is generally of two types, one being the ability to control the selection of the information studied, and the other the ability to control the speed of the instruction. It is hoped that further study of learner controlled instruction will provide a fuller understanding of learning styles. Recent improvements in the TICCIT system not only provide the learner with complete control of the information studied at any moment, but also teaches the learner about good learning strategies [Reig79].

## CHAPTER 7

### EVALUATION AND REVISION

Examination of the design algorithm given in Chapter 3 shows that the entire process is made up of many sequences containing implementation and evaluation followed by appropriate revision. Therefore, when looking at the development of the Business Letter Writing courseware these topics will be considered together.

The implementation of the course began with the selection of the basic goal and appropriate instructional objectives. The objectives, prepared based on facts obtained from several teacher interviews as well as from the 8th grade English textbook, were submitted for approval of the advising English instructor. The evaluation showed that no revision of the objectives was needed. At the teacher's request, the effectiveness of the courseware will be determined by the comparison of pre and post test scores.

The initial designs for the frames to be used in the letter drill were placed on paper and presented in booklet form. The evaluation at this point was to cover the following items:

- o subject matter accuracy
- o lesson sequence
- o frame design
- o reading level of the text
- o consistency of presentation
- o lesson size

- o program "flow"

It was determined that the text needed to be simplified and the vocabulary modified to be appropriate for a student at the 8th grade non-regents level. It is interesting to note that a number of research findings have suggested that the time taken to understand a sentence varies according to the grammatical structure used. For example, simple affirmative sentences are more readily identified and processed than more complex sentences. Also, it takes longer to respond to negative statements than to affirmative ones [Hart72]. No changes were needed at this point in the areas of subject matter, frame design or lesson sequence, but substantial changes were made to the reading level of the text. Sentences were shortened, vocabulary simplified and paragraphs were interspersed with student interaction so that only one idea was presented on the screen at any given time.

The same developmental sequence was followed for the tutorial. Two alternative formats, for the tutorial exercises were presented so that the teacher could pick the most desirable. The combination of some exercises was suggested and the final decision on passing scores was made.

Prior to coding the entire course, several sections were completed so that the frame designs considered acceptable on paper could be approved on the CRT. It was determined that a space should always be placed between the drill questions and the program feedback, and that highlighting of the screen at the point of entry for student responses was definitely advisable. Using these acceptable sample screens as a pattern, the entire course was coded and continually modified for typing errors. One significant modification was made to the drill as soon as the program was run. It became clear

that the section of the drill covering the body of the letter could not be adequately presented on the screen in the space available. The six lines remaining below the full letter display proved insufficient for questions, student response and program feedback. Eight additional lines were obtained by reducing the portion of the letter held on the screen. It was also determined at this stage of development that correcting comments of multiple lines needed to be equal in length so that highlighting would create a uniform box, not a random pattern. At the completion of the coding, the teacher ran the program and was thrilled with the results. There were only minor revisions needed, because of the initial work done with lesson design on paper.

At this stage of the courseware development, testing with a student becomes necessary. It is amazing how frequently something that seems obvious to the author does not come across to others. The student involved in the individual test of the program was taught log-in procedures, and asked to make note of any times where there was confusing text or where the kind of response desired was not clear. All comments were recorded and changes were made as needed. The most significant problem encountered dealt with the questions asking if the form of a part of the letter was correct. Even though the lesson on letter form specifies that letter form considers only the location and line order of the part, the student included an analysis of capitalization and punctuation when making a response. There was no further trouble with this question once the problem was explained to the student, but the lesson on form was modified and the questions reworded. Several typographical errors were caught and the accuracy of the score keeping functions



was verified as the student moved through the letter drills. Several suggestions were made for revision of the answer key comments which enhanced the conversational tone of the drill.

In the next stage, the field test, the program is used to assess whether it satisfactorily achieves its stated objectives when it is used with those for whom it was written, under the conditions in which it is likely to be used in practice. Prior to the field test, all students took the standardized PCT English examination as planned in phase one. The individual scores for this test are given in Figure 7.1 and 7.2. It should be noted that several days before this exam, the students were given a review on the topics covered by the test. The pre-test figures are, therefore, not a totally accurate assessment of student entry level ability. This fact should be remembered when these scores are compared with the post test scores.

In the first weeks of the field test, several factors became apparent concerning the use of the Business Letter Writing courseware. The typing skills of the students were very poor and caused great frustration when the student entered constructed responses. None of the students had ever had a keyboarding class, so they were not at all familiar with letter location. Students made many errors and entries took substantial quantities of time since they were using the "hunt and peck" method of typing. It became clear that key word comparisons must use the smallest possible segment of the word. For example, the salutation comparison, initially "salut", was revised to "alu". A recommendation was forwarded to the department head stating that students need the opportunity to take a keyboarding class very early in their high school schedule, so that learning might not be hampered by poor typing

skills. The sensitivity of the terminal also added to typing difficulties because multiple letters result from slow depression of keys. The students also had trouble with the keyboard because it contains many keys that are only needed by sophisticated users. Some of the problems encountered were:

- o the scroll key is located just where the average user will rest his hand causing the terminal to lock
- o there are cursor manipulation arrows that the student uses in place of the backspace key when trying to correct entry errors
- o there are two sets of keys with the digits 0-9 with only one set producing acceptable ASCII characters
- o the terminal memory often clears making restoration necessary

The question on letter form that had been revised as a result of the individual student test still caused confusion, so the sections relating to form questions had to be totally restructured. The teacher and students in the field test developed this new sequence and feel that the next group using the program will not encounter a similar problem.

The initial course design called for program termination and teacher consultation when student work fell below a given level. After two weeks of the test, the teacher requested that this aspect of the program be removed. She did not feel that she had the time during the session to provide the help that the student needed. Therefore, the weekly class report was revised to make note of students needing help so that the teacher can take appropriate action before the next computer session.

Students were asked to comment on letter content and several valid suggestions were made and the appropriate letter text was changed. An

examination of the student weekly scores shows a high percentage of errors on the content questions for letters 6, 10, 11 and 12. It has been decided to change the wording of all but letter 12 in order to make the error in content more apparent.

Twenty-eight students in the regents class participated in the field test. With only twenty-two terminals in working order, six of the students worked with a partner. This arrangement worked satisfactorily in most cases, but alternate arrangements are planned for the next group using the program. All extra students will use a word processing sequence on the Apple micro-computers until the Business Letter Writing course is finished by some of the students. The sharing of terminals worked less well in the non-regents class, where more often than not, only one student in the pair did the work.

All but two of the users in the regents class finished the entire sequence of letter drills in the ten week time period scheduled by the teacher. Generally, the first week was used for the introduction with about half of the class finding time for at least the first letter drill. The average length of time taken for the program was six weeks.

There were 19 users, six consisting of pairs, in the non-regents class. The average student spent 2+ weeks on the tutorial and the remaining weeks on the drill. As has been previously noted, the students were given freedom to select the order of topics studied. All possible permutations were used, none more frequently than another; and the order of study had no noticeable effect on drill scores. 65% of the users took advantage of the allowed repetition of topics within the tutorial. Only three of the students finished all twenty letter drills, with the remaining students completing an average of

seven. The non-regents students, completing one or two letter drills per class session, worked much slower than the regents students who usually finished three or four. Several factors are considered significant in causing this difference in speed: 1) motivation 2) reading ability and 3) typing ability.

The final test was given to all students at the end of the ten week marking period in which the Business Letter Writing course was used. The scores for this test are found in Figures 7.1 and 7.2. Final test scores are usually taken to provide the most powerful evidence of a programs effectiveness. In the case of this program, 76% of the students enrolled maintained or increased their score as compared to 37% of the control group. does this line cause text to appear?

The average class pre and post test scores, as found in Figure 7.3, show only a slight percentage increase for the enrolled regents class. One really wonders why a section averaging 92.4% on the pre-test should take valuable class time to use this program. However, as previously mentioned, the validity of the pre-test scores as a true indication of student knowledge is in question, due to the instruction given prior to the test. The fact that the control class scores dropped so significantly after ninety days elapsed time, leads one to believe that the post test scores for the control group might be a more accurate assessment of entry level ability. If this is the case, then there is reason to use the course, and the average regents class score would increase by 10%. Another test in ninety days seems called for to determine if the control group is still losing information, or whether the low point has already been reached. Such a test would also be valuable as a measurement of retention of subject matter taught via CAI.

---

Individual Test Scores for Non-regents Level Students

<u>Student</u>	<u>Enrolled</u>		<u>Control</u>	
	<u>PCT</u>	<u>POST</u>	<u>PCT</u>	<u>POST</u>
1	55%	90%	85%	70%
2	90	95	95	75
3	95	95	80	60
4	75	65	100	100
5	95	85	90	70
6	55	75	80	80
7	75	70	100	85
8	90	95	75	90
9	70	90	50	55
10	80	90	70	70
11	90	95	50	65
12	95	95	70	65
13	100	100	90	85
14	90	100	75	80
15	100	100	95	65
16	100	100	100	90
17	65	85	90	85
18	95	95	90	80
19	95	100		

Figure 7.1

---

---

Individual Test Scores for Regents Level Students

<u>Student</u>	<u>Enrolled</u>		<u>Control</u>	
	<u>PCT</u>	<u>POST</u>	<u>PCT</u>	<u>POST</u>
1	90%	95%	100%	95%
2	90	95	95	100
3	95	95	100	95
4	100	90	100	100
5	100	100	85	90
6	100	100	100	90
7	85	90	90	70
8	85	100	95	90
9	60	85	100	95
10	95	90	95	95
11	95	95	90	85
12	90	90	95	70
13	90	90	100	85
14	100	95	90	90
15	100	90	100	90
16	100	95	95	80
17	100	100	95	70
18	100	100	95	95
19	80	95	65	75
20	90	90	95	80
21	95	95		
22	90	95		
23	100	90		

Figure 7.2

---

---

Average Class Scores

	<u>Enrolled</u>		<u>Control</u>	
	<u>PCT</u>	<u>POST</u>	<u>PCT</u>	<u>POST</u>
Regents class	92.4%	93.9%	94.0%	82.5%
Non-regents class	84.7	90.5	82.7	76.1

Figure 7.3

---

Also significant for this portion of the design cycle are the error frequencies documented in Figures 7.4 and 7.5. It is here that the effectiveness of each of the instructional objectives can be examined. Both the regents and non-regents students show a high number of errors on the following topics:

- o use of a comma following city
- o placement of salutation
- o punctuation of closing
- o spelling of closing
- o placement of closing and signature

The sections of the tutorial teaching these topics need to be strengthened, and in the drill, more instances of these errors would seem appropriate. It is interesting to note that almost all the errors made in the punctuation of city, state line were made in the heading where the student used Rochester, New York, while just a few errors were found in the inside address using Miami, Florida.

Several instructional objectives must be added to improve the quality of the courseware. They are:

- o Thank you is not an acceptable closing
- o abbreviations should not be used for street names, cities and months

Each would be an additional tutorial topic, and examples would have to be formulated for the drill.

The file maintenance program facilitates revisions when they require changes in the letter text and answer key files. One of the program options provides for the modification of letter text, and it will be used for the previously recommended letter content revisions. During the test of the program, all revisions of the answer key comments were accomplished using the "modify answer key" option. Concurrent modification of the text and answer key for any part of a letter is also allowed. Under program direction, the user provides information needed to build both files.

A new letter file with appropriate answer keys may also be created. Several students in the regents class were allowed to create a new letter using this option. It took one class period to explain the rules for letter design and to demonstrate the running of the program. The following two class sessions were used by the students to complete the entry of the new letter and answer key comments.



---

Error Frequencies for Non-regents Level Students

	<u>Enrolled</u>		<u>Control</u>	
	<u>PCT</u>	<u>POST</u>	<u>PCT</u>	<u>POST</u>
Heading form				
order of lines	1	1	3	0
location of lines	0	1	0	1
Inside address form				
order of lines	1	0	1	0
location of lines	0	0	0	0
Street Address				
cap. error	9	2	3	2
extra punct.	1	2	2	4
City, State and Zip Code				
cap. city	1	0	2	1
cap. state	1	0	2	0
zip error	1	0	0	3
missing comma	5	6	14	18
extra punct.	0	0	0	0
Date				
cap. month	0	0	0	5
missing comma	2	0	0	2
day included	0	0	0	0
Company Name				
cap. errors	4	0	3	0
extra punct.	2	2	1	2
Salutation				
indentation	4	4	6	3
cap. error	0	2	2	9
punct. error	1	1	3	1
Body of Letter				
paragraphs	3	0	4	9
how paid	1	1	0	1
amount paid	0	2	0	0
Closing and signature				
order of lines	1	2	1	3
location of lines	3	1	5	5
cap. error	2	0	0	2
punct. error	5	6	2	8
spelling error	6	3	9	8
	---	----	---	----
	54	36	63	87

Figure 7.4

---

---

Error Frequencies for Regents Level Students

	<u>Enrolled</u>		<u>Control</u>	
	<u>PCT</u>	<u>POST</u>	<u>PCT</u>	<u>POST</u>
Heading form				
order of lines	1	0	1	4
location of lines	0	0	1	0
Inside address form				
order of lines	0	0	1	1
location of lines	0	0	1	2
Street Address				
cap. error	1	0	0	1
extra punct.	3	0	0	1
City, State and Zip Code				
cap. city	1	0	0	1
cap. state	0	0	0	0
zip error	0	1	0	2
missing comma	11	13	6	8
extra punct.	1	0	1	0
Date				
cap. month	1	0	0	1
missing comma	1	0	0	1
day included	1	1	0	0
Company Name				
cap. errors	0	0	0	1
extra punct.	2	0	0	0
Salutation				
indentation	2	3	3	1
cap. error	0	0	2	7
punct. error	0	1	0	0
Body of Letter				
paragraphs	1	0	1	4
how paid	0	1	0	5
amount paid	0	0	0	0
Closing and signature				
order of lines	1	1	0	1
location of lines	3	2	3	7
cap. error	0	0	1	1
punct. error	2	3	2	3
spelling error	2	2	1	3
	---	---	---	---
	34	28	24	55

Figure 7.5

---

## CHAPTER 8

### CONCLUSIONS

The first complete cycle through the four phases of CAI development has now been completed for the Business Writing course. The results of the post test have pointed to the need for several revisions to the letters, the tutorial and the drill. Hopefully, these revisions will improve the quality of instruction for the second cycle.

With the advantage of hindsight, it can be seen that several things should have been done differently during the first cycle. The record keeping program, designed to provide the classroom teacher with a weekly summary of student progress (see Figure 8.1), needs a more detailed record of student scores, especially for punctuation and capitalization. It should also be noted that the test of the program on an individual student would have been more useful had that individual been at the non-regents level of performance. It took many of the non-regents students several weeks to learn the log-in procedure. Had this difficulty been anticipated, some kind of introductory lesson could have been provided by the teacher.

During enrollment of the classes for the field test, the teacher decided to assign the same portion of the courseware for an entire class, rather than on an individual basis as indicated by pre-test scores. Therefore, some students that needed to use the tutorial and topic reviews during the drill did not have the opportunity to do so. Enrollment for the second cycle will be done on an individual basis.

---

 Weekly Progress Report

 BUSINESS LETTER SCORES  
 SECTION 1

TORNABENE, LINDA

<u>LETTER</u>	<u>TIMES DONE</u>	<u>PUNCTUATION</u>	<u>CAPITALIZATION</u>	<u>CONTENT</u>	<u>FORM</u>
1	1	15/15	20/20	2/2	5/5
2	IGNORED				
3	IGNORED				
4	1	12/14	18/21	0/2	7/7
CUMULATIVE PERCENT		87%	92%	50%	100%
FORCED REVIEWS		0	0	1	0
VOLUNTARY REVIEWS		0	1	0	0

SCHAFFER, SUZANNE

 STUDENT USING TUTORIAL  
 LETTER FORM COMPLETE  
 PUNCTUATION IN PROGRESS

 Figure 8.1
 

---

One of the recommendations for the design of CAI courseware, the team approach, was not followed since this was a thesis project. The advising teacher provided initial specifications for the general objective and evaluated courseware at various stages of development, but at no time was she responsible for the writing or sequencing of frames. This resulted in a substantial lengthening of the time needed for lesson development, because frames that could have been designed in one step by an experienced teacher had to be designed, evaluated and revised to reach the same point.

Several modifications could be implemented in the future that would add to the effectiveness of the courseware. One such modification would involve changing the error frequencies in the letter drill. In the initial

design, all letters have errors for each of the four topics taught, with no one variety being emphasized. Students progress sequentially through the letter file no matter what their level of performance. If the letters in the drill were designed to specialize in one kind of error, then a student could be presented with a drill appropriate to the kind of help he needed. This change would require an increase in the size of the letter file as well as modification of the letter selection routine, but would greatly enhance the ability of the course to individualize the help provided for the learner.

Another addition that would enhance the courseware would be the inclusion of letters in the drill that needed to be completely constructed by the student. In this way, the student would be required to call upon the full range of facts that he has learned about business letter writing. As soon as this technique was implemented, the pre and post tests could be given on the computer. Pre-test scores could automatically enroll the student in the indicated portions of the tutorial. This would remove student enrollment from the control of the teacher, however, the advising teacher considers the development of this feature a desirable goal.

The ability to ask for assistance at any point in the drill or tutorial would be an addition to the program that would place more control in the hands of the learner. Rather than seeking help at the end of a drill, the student could signal for help prior to the answering of any question and get it immediately.

## APPENDIX A

```
{* BUSINESS LETTER WRITING
*
* Business letter writing is a series of program
* segments designed to teach the skills necessary
* to write an effective business letter. The
* TUTORIAL teaches the parts of a business letter,
* capitalization and punctuation rules appropriate
* to business letters as well as the essential
* points to include in the body of the letter.
* The DRILL is designed to give the student
* practice in applying the rules they have learned
* about business letter writing. A student may be
* enrolled in a combined tutorial and drill program
* or simply in the drill program.
*}
```

```
{*
* This procedure displays the title page and requests
* entry of the student identification number. Based
* on the student's record, the appropriate starting
* point is chosen.
*}
```

### LETTER:

```
Initialize screen control
Print title page
Get student identification
Verify student enrollment
If student id invalid then
    log-off
else
    input student record
    if student enrolled in tutor then
        if tutor unfinished then
            chain "TSTART" { beginning of tutorial }
        else
            if forced review in progress then
                set appropriate review mode
                chain "TMENU" { tutorial menu }
    else
        chain "LINTRO" { beginning of drill }
```

```
{*
* This procedure provides the student with the proper
* introduction for his current computer session.
*}
```

### LINTRO:

```
If student's first session with DRILL then
    if student not enrolled in tutorial then
        define business letter terms
    explain score keeping
    chain "LETONE" { letter drill }
else
    if student wants review then
        if student in tutorial then
            set appropriate review mode
            chain "TMENU" { tutorial menu }
        else
            review drill terms
            chain "LPROGR" { progress report }
    else
        chain "LPROGR" { progress report }
```



```
{*
 * This procedure provides the student progress report
 * at the beginning of a drill session.
 *}
```

### LPROGR:

```
Display student progress report
If letter repetition desired then
    repeat
        get letter id
        if letter id = completed letter then
            if letter comment = finished then
                display no repeat message
            else
                letter selected = OK
                set repetition mode
        else
            display no repeat message
    until letter selected = OK
    chain "LETONE" { letter drill }
else { no repetition wanted }
state next letter # for drill
if student has time to do letter then
    chain "LETONE" { letter drill }
else
    terminate program
```

```
{*
* This procedure displays questions for the student,
* analyzes the answers and provides appropriate
* responses. The letter is examined for form,
* capitalization and punctuation in the heading and
* inside address.
*}
```

### LETONE:

```
Initialize variables
Read letter text from letter file
Get heading form answer key
Evaluate heading
If perfect form, capitalization and punctuation then
    if student response correct then
        display reinforcing comment
        + pts for correct form, punctuation, capitalization
        skip to inside address
    else
        display correcting comment
else
    display comment about incorrect heading
Analyze form (heading)
Display heading with corrected form
While there are heading lines
    analyze line for capitalization and punctuation
Display letter with correct heading
Evaluate inside address
If perfect form, capitalization and punctuation then
    if student response correct then
        display reinforcing comment
        + pts for correct form, punctuation and capitalization
        skip to salutation
    else
        display correcting comment
else
    display comment about incorrect inside address
Analyze form (inside address)
Display inside address with corrected form
While there are inside address lines
    analyze line for capitalization and punctuation
Display letter with correct heading and inside address
Chain "LETTWO" { second part of letter drill }
```

### Procedure Analyze form (heading or inside address)

```
If form is correct then
    if response = yes then
```

```

        +1 form questions answered correctly
        display answer key reinforcing comment
    else
        display answer key correcting comment
else
    if response = yes then
        display not so positive comment
        display answer key comment
    else
        +1 form questions answered correctly
        print "positive" comment
    print heading with line numbers
    repeat
        ask question #1 on form and get response
        if response = answer key then
            display "positive" comment
            if first try then
                try = try + 1
                +1 form questions answered correctly
                display answer key reinforcing comment
            case form type of
                out of order or extra line question
                missing line question
                position error question
            if response = answer key then
                +1 form questions answered correctly
                display "positive" comment
            else
                display "not so positive" comment
                display answer key comment
        else { incorrect student response }
            display "not so positive" comment
            if try = 1 then
                try = try + 1
                display answer key comment
    until (try = 2) or (response = answer key)
    correct heading form in letter text

```

### Procedure Analyze Line for Capitalization and Punctuation

```

Inquire about capitalization and punctuation
Get student response
If line correct as given then
    if student response agrees then
        + pts for capitalization answered correctly
        + pts for punctuation answered correctly
        display "positive" comment
    else
        display "not so positive" comment
        display instructing comment appropriate to line
else

```

```

repeat
  request entry of line with corrections
  count capitalization in student response
  count punctuation marks in student response
  search student response for answer key strings
  if first capital found then
    if try = 1 then
      + pts for correct capitalization
  if second capital needed and found then
    if try = 1 then
      + pts for correct capitalization
  if punctuation needed and found then
    if try = 1 then
      + pts for correct punctuation
  if punctuation removal needed and done then
    if try = 1 then
      + pts for correct punctuation
  if all capitals needed are found then
    if count of capitals = count needed then
      + pts for correct capitalization
      display "positive" comment
    else
      display "too many capital letters"
  else { necessary capital letters not found }
    if count of caps > 2 then
      display "too many capital letters"
      display answer key comment
  if punctuation needed then
    if punctuation found then
      if punctuation removal needed then
        if removal done and ct = 1 then
          print "removal done"
          if try = 1 then
            + pts correct punct.
        else { removal not done }
          display "remove punctuation"
      else { removal not needed }
        if count of punctuation > 1 then
          display "too much punct."
        else
          display "positive" comment
          if try = 1 then
            + pts correct punct.
    else { punctuation not found }
      display "punctuation not found"
      display answer key comment
  else { no punctuation needed }
    if punctuation removal needed then
      if punctuation count <> 0 then
        display "punctuation to remove"
    else

```

```
        display "punctuation removed"
    else { removal not needed }
        if count of punctuation <> 0 then
            display "unwanted punctuation"
        else
            display "that's right"
            if try = 1 then
                + pts correct punctuation
until (try = 2) or (student response is correct)
```

```
{*
* This is the second segment involved in the letter
* drill. It deals with the salutation, body of the
* letter, closing and signature.
*}
```

## LETTWO:

```
Display salutation, body and closing of the letter
Analyze salutation for punctuation and capitalization
If salutation contained errors then
    display corrected version
Question student on the body of the letter - paragraph I
If student response = answer key then
    if try = 1 then
        +1 letter content questions answered correctly
        display "positive" comment
        display answer key comment
else
    display "not so positive" comment
    display answer key comment
Question student about body of the letter - paragraph II
If student response = answer key then
    if try = 1 then
        +1 letter content questions answered correctly
        display "positive" comment
        display answer key comment
else
    display "not so positive" comment
    display answer key comment
If body contained errors then
    display corrected version
Evaluate closing, signature and typed name
If perfect form, capitalization and punctuation then
    if student response correct then
        display reinforcing comment
        + pts for correct form, punctuation and capitalization
        skip to final letter display
    else
        display correcting comment
else
    display comment about incorrect closing, signature and typed name
Repeat
    question form of closing
    if closing form correct then
        if student response correct then
            display answer key comment
            if try = 1 then
                + pts correct form answers
```

```

    else
        display answer key comments
    else { form is incorrect }
        if student response = answer key then
            if try = 1 then
                + pts correct form answers
                display answer key comment
            else
                display answer key comment
until (try > 2) or (response = answer key)
If closing form contained errors then
    display with corrected form
Analyze closing for punctuation and capitalization
Display entire letter
Chain "LANLYZ" { analyze score }

```

```
{*
* This procedure stores individual letter scores
* and updates the cumulative average. The appropriate
* letter comment is determined and the student letter
* grades are displayed.
*}
```

### LANLYZ:

```
Analyze score
Assign grades
Assign letter comment
If comment is "see teacher" then
    set appropriate review mode
If not repeating letters then
    assign next letter #
Write student record
If enrolled in tutor then
    if see teacher then
        set appropriate review mode
    else
        ask if student wants to review
        if yes then
            set appropriate review mode
        else
            chain "LCHOOZ" { choose program sequence }
chain "TMENU" { tutorial menu }
else
    chain "LCHOOZ" { choose program sequence }
```



```

{*
* This procedure makes decisions concerning the
* sequence of the program segments. At this
* point it is possible to:
*     Terminate the program by choice
*     Terminate due to "see teacher request"
*     Repeat the letter just completed
*     Move on to the next sequential letter
*     Continue letter repetition
*}

```

### LCHOOZ:

```

If comment = see teacher then
    terminate program
else if in repeat mode at beginning of session then
    chain "LPROGR" { progress report }
else
    inquire about repeating letter just completed
    if repetition desired then
        chain "LETONE" { letter drill }
    else
        assign next sequential letter
        if student has time to continue then
            chain "LETONE" { letter drill }
        else
            say good-bye and terminate program

```

```
{*
 * This procedure directs the student to the correct
 * tutorial program segment based on his record.
 *}
```

### TSTART:

```
If tutorial in progress then
    if form in progress then
        chain "TFORM" { tutorial-form }
    else if punctuation in progress then
        chain "TPUNCT" { tutorial-punctuation }
    else if capitalization in progress then
        chain "TCAP" { tutorial-capitalization }
    else if content in progress then
        chain "TCNTNT" { tutorial-content }
    else chain "TMENU" { tutorial menu }
else
    display introduction
    chain "TFORM" { tutorial-form }
```

```
{*
 * This procedure displays the tutorial menu and
 * directs forced reviews.
*}
```

### TMENU:

```
If not forced review then
  display menu choice
  case choice of
    letter form      - chain "TFORM"
    capitalization - chain "TCAP"
    punctuation      - chain "TPUNCT"
    letter content - chain "TCNTNT"
    terminate        - chain "TSTOP"
else
  if form review required then
    chain "TFORM" { tutorial-form }
  if capitalization review required then
    chain "TCAP" { tutorial-capitalization }
  if punctuation review required then
    chain "TPUNCT" { tutorial-punctuation }
  if content review required then
    chain "TCNTNT" { tutorial-content }
  chain "TSTOP" { tutorial end }
```

```
{*
* This procedure teaches punctuation rules appropriate
* to Business Letter Writing. Exercises are included
* to test the students comprehension. Student progress
* is marked at the end of each topic.
*}
```

### TPUNCT:

```
Count reviews of punctuation
Repeat
    display comma lesson (date)
    repeat
        exercise
        if score not ok then
            present remedial lesson
    until exercises tried twice.
until lesson learned.
Repeat
    display comma lesson (city, state)
    repeat
        exercise
        if score not ok then
            present remedial lesson
    until exercise tried twice.
until lesson learned.
Repeat
    display comma lesson (closing)
    repeat
        exercise
        if score not ok then
            present remedial lesson
    until exercise tried twice.
until lesson learned.
Repeat
    display colon lesson (salutation)
    repeat
        exercise
        if score not ok then
            present remedial lesson
    until exercise tried twice.
until lesson learned.
If tutorial finished then
    chain "TSTOP" { tutorial end }
else
    chain "TMENU" { tutorial menu }
```

```
{*
* This procedure teaches the parts of the letter
* and has exercises to test student comprehension.
* Student progress is marked at the end of each topic.
*}
```

### TFORM:

```
Count reviews of letter form
Repeat
  display heading lesson
  repeat
    exercise on heading
    if score not ok then
      if first try then
        remedial lesson 1
      else
        remedial lesson 2
  until score ok or lesson 2 complete.
until lesson learned.
Repeat
  display inside address lesson
  repeat
    exercise on inside address
    if score not ok then
      if first try then
        remedial lesson 1
      else
        remedial lesson 2
  until score ok or lesson 2 complete.
until lesson learned.
Chain "TFORM2"
```

### TFORM2:

```
Repeat
  display salutation lesson
  display body lesson
  display closing lesson
  display signature lesson
  repeat
    exercise on salutation and closing
    if score not ok then
      present remedial lesson
  until lesson tried twice.
until lesson learned.
Exercise on parts of the letter
If score ok then
  chain - "TMENU" { tutorial menu }
else
```

```
chain - "TFORM" { tutorial - form }
```

```
{*
* This procedure teaches capitalization rules appropriate
* to Business Letter Writing. Exercises are included to
* test student comprehension. Student progress is marked
* at the end of each topic.
*}
```

### TCAP:

Count review of capitalization

Repeat

```
    display lesson on names
    repeat
        exercise on names
        if score not ok then
            present remedial lesson
    until exercise tried twice.
```

until lesson learned.

Repeat

```
    display lesson of greeting
    display lesson on closing
    repeat
        exercise on greeting and closing
        if score not ok then
            present remedial lesson
    until exercise tried twice.
```

until lesson learned.

If tutorial finished then

```
    chain "TSTOP" { tutorial end }
```

else

```
    chain "TMENU" { tutorial menu }
```

```
{*
* This procedure teaches the points that must be found
* in the body of the letter in order to write an
* effective business letter. Exercises are included
* and student progress is marked after each letter type.
*}
```

### TCNTNT:

Count review of letter content

Repeat

display letter of order description  
exercises on letter of order

until lesson learned.

Repeat

display letter of complaint  
exercises on letter of complaint

until lesson learned.

If tutorial finished then

chain "TSTOP" { tutorial end }

else

chain "TMENU" { tutorial menu }



```
{*
* This procedure directs the program sequence when
* the student leaves the tutorial.
*}
```

### TSTOP:

```
If tutorial complete then
    display message so stating
    chain "LINTRO" { beginning of drill }
else if stopping a tutorial session then
    terminate the program
else if stopping a review session then
    if review requested at beginning of session then
        chain "LPROGR" { progress report }
    else
        chain "LCHOOZ" { choose program sequence }
```

TEACHER'S INSTRUCTIONS  
FOR  
BUSINESS LETTER WRITING

TUTORIAL AND DRILL

Business Letter Writing is designed to help 8th grade English students master the skills necessary to write an effective business letter using accepted letter form.

The "tutorial" section teaches the parts of a business letter, capitalization and punctuation rules appropriate to business letters, as well as the essential points to include in the body of the letter.

The "drill" section gives the student practice in applying the rules they have learned about business letter writing. The drill may be used following the tutorial or after normal classroom instruction.

Students are enrolled in the program prior to using the computer (see BLREC). When enrollment takes place the teacher has the option of enrolling the student in a combined tutorial and drill program or simply in the drill program.

A record of student progress is kept so that the teacher may determine the current status of a student's work at any time (see BLREC).

### Basic Terminal Instructions for the Student

To successfully use the program, the student must know the following facts:

1. The on/off switch is located in the lower right corner on the rear side of the terminal.
2. The CAPS LOCK key must be released at the beginning of the class period. All letters will then print in lower case.
3. To enter a capital letter the shift key is held down and the desired letter is entered.
4. The white blinking square is called the cursor. It indicates the screen location for the next character entered from the keyboard.
5. If a key boarding mistake is made, it is possible to back up and make a correction. Depression of the backspace key will move the cursor backwards. (Note: backspacing erases the characters but due to the mechanics of the CRT they still appear on the screen until new characters are entered over them.) When the cursor is positioned over the error, enter the correct sequence of characters.
6. When a series of characters is entered on the keyboard, the depression of the return key signals the computer that the entry is complete.
7. Should the student get ?? as a response following data entry, it means that the computer has not received the kind of entry that is needed. Most usually this would be the entry of a letter when the program specifically asks for a number. Please note: Every effort has been made to check for accuracy of the input. When the program asks for a yes or no answer, it will repeat the question if anything else is entered. The same is true of number validation for menu selections.

### Operating Instructions

Release the CAPS LOCK key before beginning.

Enter HEL-E067,ENG <return>

The system responds by displaying the school name and allows you to begin the Business Letter Writing program.

Enter GET-\*LETTER <return>

The system responds by loading the program. This is an invisible operation.

Enter RUN <return>

The system responds by displaying the program title page that requests the student identification number.

Enter number (1-800) <return>

The system responds by providing the program for valid identification numbers. Invalid numbers cause immediate removal from the system.

Enter all appropriate answers to questions asked by the program.

Termination of the program is allowed in one of two ways.

1. by choice of program alternatives
2. by entry of CONTROL-C <return> as response to any question

The system responds with the word END.

Enter BYE <return> and leave the system.

### The Tutorial

The tutorial is divided into four lessons. The topics covered are letter form, capitalization, punctuation and letter content.

All students begin the program with a discussion of letter form. The parts of a letter are given along with a description of the information that must be contained in each part.

As each segment of a lesson is completed, the student's progress is recorded so that when a class session ends, the lesson may be resumed the following week at the correct location. Each topic studied has between 4 and 7 segments.

When the student finishes the lesson on letter form, the program will display the Lesson Topic Menu. At this point, the student may choose which topic to study next. This choice may be a review of a previously covered topic or one of the topics not yet studied.

When all four topics are studied, the student is automatically transferred to the drill program.

## Lesson Content

### Letter Form

The parts of a letter are given along with a description of the information that must be contained in each part.

The heading appears in the upper right corner and consists of three lines: 1) the letter writer's street address 2) his city state and zip 3) the date the letter is written.

The inside address always begins at the left margin. It contains information about the organization or firm to whom the letter is sent. This information is the firm name, street address and city, state.

The salutation (or greeting) begins two lines under the inside address and also starts at the left margin. If a letter is written to a specific person, the person's name is used, otherwise a general greeting such as "Dear Sir" is used.

The body of the letter is where you state the purpose of the letter. It should be brief, courteous and to the point.

The closing appears below the body and usually lines up with the first word in the heading.

The typed name goes four lines below the closing and the letter writer places his signature between the two.

### Punctuation

In a date, a comma is placed between the day of the month and the year.

A comma is used between the name of a city or town and the name of its state. The zip code always follows the state name.

A comma always follows the closing of a letter.

A colon is used after the salutation of a business letter.

### Capitalization

The name of a person is always capitalized. Any titles used with the name are capitalized as well.

All words in the name of a company begin with a capital letter.

The name of a specific place is always capitalized. Names of

streets, cities and states will begin with capital letters whenever they are used.

Months of the year are always capitalized.

The first word and all other nouns in the greeting are capitalized.

Only the first word of the closing is capitalized.

### Letter Content

There are two basic types of business letters that will be studied, the letter of order and the letter of complaint. All business letters have the same parts. These types are just different in what they have to say in the body of the letter.

The order letter must include specific details to make sure the desired item is received. Information about the amount and the method of payment is also included.

A letter of complaint should courteously state the problem and request some kind of action that will solve the problem.

Letter Exercises At the conclusion of each major lesson segment, the student is presented with an exercise designed to test their understanding of the subject matter. The majority of the questions ask the student to determine whether or not a given sample is correct. Several of the exercises require that the student construct an answer. If the student gets less than 70% of the exercises correct, there is a remedial lesson and then the exercises are repeated. If the student improves his score, he moves forward in the lesson sequence, otherwise he repeats the lesson that is giving him trouble.



### The Drill

The drill is made up of a series of twenty letter exercises. For each exercise, an incorrect letter is displayed and a series of questions about the letter are asked. These questions cover the material taught in the tutorial.

There are three basic formats to the questions used in the drill. The most frequently used variety is the constructed response. The multiple choice question is also used in a number of cases. Many times, before the program uses either of the above, the student will be asked to analyze a particular point of the letter and make a correct/incorrect decision. With this type of question, it is perfectly clear that if one answer is wrong, then the other is right; so there is no try again request. Instead, the student either gets a reinforcing statement about a correct answer or a correcting statement for a wrong answer.

As the student answers the questions, the program gives an immediate response about the accuracy of the student's reply. If the student answer is correct, a positive comment is given as well as a reinforcing statement of fact. Should the student answer be incorrect an appropriate comment is given, and then the student receives a hint that will help him answer when he is asked to try again.

While the student is answering questions, the program keeps track of the correct answers. When the student finishes an exercise, the student is given a letter grade for each of the four topics. If the student gets nearly all the answers right, this letter is marked "finished" so that the student will spend no more time on it. If one or more of the grades received by the student

falls below a "C", the letter comment is "See Teacher". Under all other circumstances the comment is "Repeat Allowed".

At the beginning of every session the student is shown a list of the letters that have been completed. The student may then repeat any of these letters except those marked "letter finished".

The only progression point for the drill occurs at the end of a letter, so that if a student terminates (via CONTROL-C) in the middle of a letter, that letter will be repeated from the beginning at the next class session.

At the beginning and again at the end of an exercise, the student is asked if a review of a business letter topic is desired. When the student requests a review, the tutorial menu is displayed to direct the program to the desired topic. In addition to the voluntary review is the review that is required by the program when the student receives a "See Teacher" comment. At this time the program directs the student to the topics that received a low grade. Should the student terminate in the middle of this review, it will be continued at the beginning of the next session. The grade report (see BLREC) includes a listing of these reviews.

[illegible]

PRACTICE SESSIONS DESIGNED  
TO IMPROVE YOUR  
LETTER WRITING SKILLS

TO BEGIN PLEASE ENTER YOUR NUMBER---->?3

HI JIM

YOU ARE JUST BEGINNING A SERIES OF LESSONS ABOUT WRITING BUSINESS LETTERS. THERE WILL BE TIMES WHEN I WILL NEED YOU TO TELL ME WHEN YOU ARE READY FOR MORE INFORMATION. WHEN THIS HAPPENS, I WILL DISPLAY THE CHARACTER > AND YOU SHOULD PRESS THE LETTER G FOLLOWED BY THE RETURN KEY WHEN YOU ARE READY FOR ME TO CONTINUE. LET'S TRY IT NOW.

> ?g

THERE ARE FOUR TOPICS THAT YOU WILL STUDY IN ORDER TO FINISH THIS PROGRAM. THEY ARE:

1. LETTER FORM

THIS LESSON DESCRIBES THE PARTS OF A BUSINESS LETTER. THE INFORMATION IN EACH PART IS DISCUSSED AND THE PROPER LOCATION IN THE LETTER IS GIVEN.

2. CAPITALIZATION

THE RULES FOR CAPITALIZATION OF THE GREETING AND CLOSING ARE COVERED. GENERAL FACTS ABOUT THE CAPITALIZATION OF NAMES, PLACES, AND DATES ARE ALSO EXPLAINED.

3. PUNCTUATION

THE RULES FOR PUNCTUATION OF THE GREETING AND CLOSING ARE DISCUSSED IN ADDITION TO SOME GENERAL FACTS ABOUT PUNCTUATION.

4. LETTER CONTENT

THIS LESSON COVERS THE INFORMATION THAT MUST BE IN THE BODY OF THE LETTER TO MAKE IT A CLEAR AND COMPLETE BUSINESS LETTER.

> ?g

YOUR FIRST LESSON WILL BE ABOUT LETTER FORM. AFTER YOU FINISH THIS LESSON, YOU MAY CHOOSE WHICH TOPIC YOU WANT TO STUDY NEXT. I WILL KEEP TRACK OF YOUR PROGRESS EACH WEEK. IF YOU STOP IN THE MIDDLE OF A LESSON TODAY, I WILL MAKE SURE THAT YOU START AT THE SAME LOCATION NEXT WEEK.

> ?g

IF YOU WANT TO LEAVE THE MACHINE AND WILL BE GONE  
JUST A FEW MINUTES, DO NOTHING SPECIAL... I WILL WAIT  
FOR YOU TO RETURN.

IF YOU MUST LEAVE FOR GOOD, TYPE CONTROL C AS THE  
ANSWER TO ANY QUESTION.

> ?g

## LETTER FORM

IT IS VERY IMPORTANT TO LEARN ALL THE PARTS OF A BUSINESS LETTER. TO WRITE A CORRECT LETTER, YOU MUST KNOW WHAT INFORMATION IS IN EACH PART AND WHERE ON THE PAPER THAT PART BELONGS.

> ?g



## THE PARTS OF A LETTER ARE:

1255 Woods Avenue  
Emory, Ohio 24642  
November 30, 1982

&lt;----THE HEADING

Village Book Store  
3 East Main Street  
Winton, Ohio 24640

&lt;----THE INSIDE ADDRESS

Dear Sir:

&lt;----THE SALUTATION

I would like to order four copies of  
"Where the Red Fern Grows" by W. Rawls.

&lt;----THE BODY

I am enclosing a check for \$10.50 to  
pay for the books and postage.

Sincerely yours,

&lt;----THE CLOSING

Lynn's signature

&lt;----THE SIGNATURE

Lynn Rocktasch

1255 Woods Avenue  
Emory, Ohio 24642  
November 30, 1982

Village Book Store  
3 East Main Street  
Winton, Ohio 24640

Dear Sir:

I would like to order four copies of  
"Where the Red Fern Grows" by W. Rawls.

I am enclosing a check for \$10.50 to  
pay for the books and postage.

Sincerely yours,

Lynn's signature

Lynn Rocktasch

<----THE HEADING

THE HEADING IS WRITTEN  
IN THE TOP RIGHT-HAND  
CORNER OF THE PAPER.  
IT CONSISTS OF 3 LINES:

- 1) YOUR STREET ADDRESS
- 2) CITY, STATE AND ZIP
- 3) DATE OF THE LETTER

> ?g

I AM GOING TO DISPLAY A SERIES OF HEADINGS FOR YOU.  
 IF THE HEADING IS CORRECT, ENTER Y.  
 IF THE HEADING IS NOT CORRECT, THEN ENTER N.

123 Elm Circle  
 Ely, Nevada 84324  
 May 16, 1975

?n ARE YOU SURE ABOUT THAT?  
 THIS HEADING IS CORRECT.

34 Fargo Drive  
 Boise, Idaho 89332

?y I DON'T THINK SO.  
 THE DATE IS MISSING.

October 15, 1982  
 15 Chelsea Way  
 Rye, New York 13110

?y NOT EXACTLY.  
 THE ORDER IS WRONG.

1620 Sixth Street  
 Columbus, Ohio 43115  
 July 4, 1976

?n SORRY.  
 THIS HEADING IS CORRECT.

12 Oxford Avenue  
 December 18, 1965

?y NOT RIGHT.  
 THE CITY IS MISSING.

Temple, Texas 67112  
 March 17, 1979

?y NO.  
 THERE IS NO STREET.

> ?g

420 Woods Avenue  
Los Angeles, California 96700  
April 19, 1955

THIS HEADING IS CORRECT.

IT IS CORRECT BECAUSE:

THE FIRST LINE IS THE LETTER WRITER'S STREET ADDRESS  
THE SECOND LINE IS THE LETTER WRITER'S CITY, STATE AND ZIP.  
THE THIRD LINE IS THE DATE THE LETTER WAS WRITTEN.

> ?g

104 Van Ripper Lane  
Orinda, California 93667

IS THIS HEADING CORRECT? (Y/N)---->y

TAKE ANOTHER LOOK. A HEADING MUST HAVE 3 LINES.  
THIS HEADING HAS ONLY TWO. IT IS MISSING THE DATE.

> ?g

LET'S TRY THE EXERCISES AGAIN TO SEE IF YOU CAN  
IMPROVE YOUR SCORE. BE SURE TO LOOK CAREFULLY AT THE  
HEADING BEFORE YOU ENTER YOUR ANSWER.

> ?g

I AM GOING TO DISPLAY A SERIES OF HEADINGS FOR YOU.  
 IF THE HEADING IS CORRECT, ENTER Y.  
 IF THE HEADING IS NOT CORRECT, THEN ENTER N.

123 Elm Circle  
 Ely, Nevada 84324  
 May 16, 1975

?y GREAT.

34 Fargo Drive  
 Boise, Idaho 89332

?n TERRIFIC.  
 THE DATE IS MISSING.

October 15, 1982  
 15 Chelsea Way  
 Rye, New York 13110

?n GREAT!  
 THE ORDER IS WRONG.

1620 Sixth Street  
 Columbus, Ohio 43115  
 July 4, 1976

?y GOOD ANSWER.

12 Oxford Avenue  
 December 18, 1965

?n YOU'RE RIGHT.  
 THE CITY IS MISSING.

Temple, Texas 67112  
 March 17, 1979

?n YOU'RE RIGHT.  
 THERE IS NO STREET.

> ?g

1255 Woods Avenue  
Emory, Ohio 24642  
November 30, 1982

Village Book Store  
3 East Main Street  
Winton, Ohio 24640

Dear Sir:

I would like to order four copies of  
"Where the Red Fern Grows" by W. Rawls.

I am enclosing a check for \$10.50 to  
pay for the books and postage.

Sincerely yours,

Lynn's signature

Lynn Rocktasch

<---THE INSIDE ADDRESS

THE INSIDE ADDRESS  
ALWAYS BEGINS AT THE  
LEFT MARGIN.

IT CONTAINS INFORMATION  
ABOUT THE ORGANIZATION  
OR FIRM YOU ARE WRITING

THIS INFORMATION IS:

- 1) THE FIRM NAME
- 2) STREET ADDRESS
- 3) CITY, STATE AND ZIP

> ?g

I AM GOING TO DISPLAY A SERIES OF INSIDE ADDRESSES FOR YOU.  
IF THE INSIDE ADDRESS IS CORRECT, ENTER Y.  
IF IT IS NOT CORRECT, THEN ENTER N.

XYZ Printing  
3 Chestnut Street  
Salem, Oregon 97202

?y TERRIFIC

Micro Computer Store  
2625 Alberry Street

?n GREAT!  
THE CITY IS MISSING.

Macedon Auto Parts  
132 West Avenue

?n GREAT!  
THE CITY IS MISSING.

33 Sandstone Drive  
Reno, Nevada 82111

?n CORRECT, YOU'RE DOING FINE.  
NO COMPANY IS GIVEN.

Al's Fixit Shop  
20 Hillsdale Drive  
Bend, Oregon 89002

?y GOOD.

Thelma's Knit Shop  
Miami, Ohio 30611

?n YOU'RE RIGHT.  
NO ADDRESS IS GIVEN.

> ?g



1255 Woods Avenue  
Emory, Ohio 24642  
November 30, 1982

Village Book Store  
3 East Main Street  
Winton, Ohio 24640

Dear Sir:

I would like to order four copies of  
"Where the Red Fern Grows" by W. Rawls.

I am enclosing a check for \$10.50 to  
pay for the books and postage.

Sincerely yours,

Lynn's signature

Lynn Rocktasch

<---THE SALUTATION

THE SALUTATION BEGINS 2  
LINES AFTER THE INSIDE  
ADDRESS AND ALSO STARTS  
AT THE LEFT MARGIN.

IF YOU ARE WRITING TO A  
SPECIFIC PERSON, USE  
Dear AND THEN THE NAME  
SUCH AS Dear Mr. Smith:  
OTHERWISE USE A GENERAL  
GREETING LIKE Dear Sir:

> ?g

1255 Woods Avenue  
Emory, Ohio 24642  
November 30, 1982

Village Book Store  
3 East Main Street  
Winton, Ohio 24640

Dear Sir:

I would like to order four copies of  
"Where the Red Fern Grows" by W. Rawls.

I am enclosing a check for \$10.50 to  
pay for the books and postage.

Sincerely yours,

Lynn's signature

Lynn Rocktasch

<----THE BODY

THE BODY OF THE LETTER  
IS WHERE YOU STATE THE  
PURPOSE OF YOUR LETTER.

IT SHOULD BE BRIEF,  
COURTEOUS, AND TO THE  
POINT.

> ?g

1255 Woods Avenue  
Emory, Ohio 24642  
November 30, 1982

Village Book Store  
3 East Main Street  
Winton, Ohio 24640

Dear Sir:

I would like to order four copies of  
"Where the Red Fern Grows" by W. Rawls.

I am enclosing a check for \$10.50 to  
pay for the books and postage.

Sincerely yours,

Lynn's signature

Lynn Rocktasch

<---THE CLOSING

THE CLOSING APPEARS  
BELOW THE BODY. USUALLY  
IT LINES UP WITH THE  
1ST WORD IN THE HEADING

> ?g

1255 Woods Avenue  
 Emory, Ohio 24642  
 November 30, 1982

Village Book Store  
 3 East Main Street  
 Winton, Ohio 24640

Dear Sir:

I would like to order four copies of  
 "Where the Red Fern Grows" by W. Rawls.

I am enclosing a check for \$10.50 to  
 pay for the books and postage.

Sincerely yours,

Lynn's signature

Lynn Rocktasch

TYPE OR PRINT YOUR NAME  
 FOUR LINES BELOW THE  
 CLOSING; THEN WRITE  
 YOUR SIGNATURE IN THE  
 SPACE BETWEEN. IN THIS  
 WAY, YOUR NAME CAN BE  
 CLEARLY READ.

<-----THE SIGNATURE

<-----THE TYPED NAME

> ?g

## BUSINESS LETTER TOPICS

1. LETTER FORM \*
2. CAPITALIZATION
3. PUNCTUATION
4. LETTER CONTENT
5. END LESSON FOR TODAY

THE TOPICS YOU HAVE ALREADY STUDIED ARE FOLLOWED BY AN \*.  
YOU MAY REVIEW ONE OF THESE TOPICS OR CHOOSE A NEW ONE.

ENTER THE NUMBER OF YOUR CHOICE---->?4

THERE ARE TWO BASIC TYPES OF BUSINESS LETTERS THAT WE WILL STUDY. THEY ARE:

1. THE ORDER LETTER
2. THE LETTER OF COMPLAINT

ALL BUSINESS LETTERS HAVE THE SAME PARTS. THESE TYPES ARE JUST DIFFERENT IN WHAT THEY HAVE TO SAY IN THE BODY OF THE LETTER.

> ?g

## LETTER OF ORDER

IN THE ORDER LETTER, YOU MUST INCLUDE MANY SPECIFIC DETAILS TO MAKE SURE YOU RECEIVE THE ITEM YOU WANT TO BUY. YOU SHOULD TELL:

### ALL ABOUT THE ITEM YOU WANT TO BUY

1. THE NAME OF THE ITEM
2. HOW MANY YOU WANT
3. WHERE YOU SAW THE ITEM ADVERTISED
4. CATALOG NUMBER, SIZE, AND COLOR
5. THE PRICE

### ALL ABOUT YOUR PAYMENT

1. THE TOTAL AMOUNT YOU ARE ENCLOSING
2. THE COST OF POSTAGE AND HANDLING
3. HOW YOU ARE MAKING THE PAYMENT

> ?g

1255 Woods Avenue  
Emory, Ohio 24642  
November 30, 1982

Village Book Store  
3 East Main Street  
Winton, Ohio 24640

Dear Sir:

Please send me on model RC-51 clock  
radio as shown in your Fall 1982 catalog.

A check for \$12.30 is attached to pay  
for the \$9.95 radio and postage of \$2.35.

Sincerely yours,

Lynn's signature

Lynn Rocktasch

HERE IS AN EXAMPLE OF A  
LETTER OF ORDER.

DO YOU THINK THE BODY  
HAS ALL THE INFORMATION  
NEEDED TO PLACE A CLEAR  
ORDER? (Y/N)---->y

CORRECT, YOU'RE DOING FINE.  
LYNN'S LETTER GIVES ALL  
THE NECESSARY DETAILS:

1. THE ITEM NAME
2. HOW MANY SHE WANTS
3. THE ITEM PRICE
4. THE CATALOG ISSUE
5. THE CATALOG NUMBER
6. THE CHECK AMOUNT
7. THE POSTAGE AMOUNT

REMEMBER, YOU NEVER SEND  
CASH IN A LETTER.

> ?g



1255 Woods Avenue  
Emory, Ohio 24642  
November 30, 1982

Village Book Store  
3 East Main Street  
Winton, Ohio 24640

Dear Sir:

Please send me one model S72 thermos  
advertised for \$11.97 in today's "Times".

Enclosed please find \$13.87 which is  
enough for the thermos and \$1.90 postage.

Sincerely yours,

Lynn's signature

Lynn Rocktasch

HERE IS ANOTHER LETTER  
OF ORDER.

DO YOU THINK THE BODY  
HAS ALL THE INFORMATION  
NEEDED TO PLACE A CLEAR  
ORDER? (Y/N)---->n

GOOD THINKING.  
LYNN'S LETTER DOES NOT  
GIVE ENOUGH INFORMATION  
ABOUT HER PAYMENT. SHE  
FORGOT TO STATE HOW SHE  
WAS SENDING HER MONEY.  
REMEMBER! NEVER SEND  
CASH. ENCLOSE A MONEY  
ORDER OR A CHECK.

> ?g

## LETTER OF COMPLAINT

THE COMPANY THAT SELLS YOU A PRODUCT USUALLY WANTS YOU TO BE A SATISFIED CUSTOMER. IF YOU ARE NOT SATISFIED, WRITE DIRECTLY TO THE COMPANY AND COURTEOUSLY STATE YOUR PROBLEM. YOU SHOULD INCLUDE:

1. A DESCRIPTION OF THE PROBLEM
2. ANY DATES INVOLVED
3. A REQUEST FOR SOME KIND OF ACTION  
THAT WILL SOLVE THE PROBLEM

> ?g

1255 Woods Avenue  
Emory, Ohio 24642  
November 30, 1982

Village Book Store  
3 East Main Street  
Winton, Ohio 24640

Dear Sir:

In July, I ordered one paperback copy of "Sounder", but I have not received it.

I am tired of waiting. I would like to know when you will send my book order.

Sincerely yours,

Lynn's signature

Lynn Rocktasch

HERE IS AN EXAMPLE OF A LETTER OF COMPLAINT.

DO YOU THINK THE BODY HAS ALL THE INFORMATION NEEDED FOR A COURTEOUS COMPLAINT? (Y/N)---->y

CORRECT, YOU'RE DOING FINE. LYNN'S LETTER CLEARLY TELLS ABOUT HER PROBLEM.

SHE ALSO REQUESTS THAT THEY LET HER KNOW ABOUT HER ORDER.

> ?g

1255 Woods Avenue  
Emory, Ohio 24642  
November 30, 1982

Village Book Store  
3 East Main Street  
Winton, Ohio 24640

Dear Sir:

I just received all 5 books listed on  
your Invoice 85, but one book is damaged.

The damaged book is "Sounder". Please  
let me know immediately what I should do.

Sincerely yours,

Lynn's signature

Lynn Rocktasch

HERE IS ANOTHER LETTER  
OF COMPLAINT.

DO YOU THINK THE BODY  
HAS ALL THE INFORMATION  
NEEDED FOR A COURTEOUS  
COMPLAINT? (Y/N)---->y

CORRECT.

LYNN'S LETTER CLEARLY  
TELLS ABOUT HER PROBLEM.

SHE ALSO ASKS THE BOOK  
COMPANY WHAT SHOULD BE  
DONE TO GET THE PROBLEM  
SOLVED.

> ?g

## BUSINESS LETTER TOPICS

1. LETTER FORM \*
2. CAPITALIZATION
3. PUNCTUATION
4. LETTER CONTENT \*
5. END LESSON FOR TODAY

THE TOPICS YOU HAVE ALREADY STUDIED ARE FOLLOWED BY AN \*.  
YOU MAY REVIEW ONE OF THESE TOPICS OR CHOOSE A NEW ONE.

ENTER THE NUMBER OF YOUR CHOICE---->?2

## NAMES OF PEOPLE

ALWAYS CAPITALIZE THE NAME OF A PERSON. ANY TITLES USED WITH THE NAME SHOULD BE CAPITALIZED AS WELL.

President Ford

INITIALS AND ABBREVIATIONS THAT STAND FOR TITLES ARE ALSO CAPITALIZED.

Dr. D.M.Reggs

> ?g

## NAMES OF COMPANIES

ALL WORDS IN THE NAME OF A COMPANY SHOULD BEGIN WITH A CAPITAL LETTER. FOR EXAMPLE:

Camille's Flower Shop

Forester Construction

Gavin Electric Company

> ?g

## NAMES OF PLACES

THE NAME OF A SPECIFIC PLACE IS ALWAYS CAPITALIZED. THIS MEANS THAT THE NAMES OF STREETS, CITIES AND STATES WILL BEGIN WITH CAPITAL LETTERS WHENEVER THEY ARE USED IN A BUSINESS LETTER. FOR EXAMPLE:

31 Keswick Avenue

Ogden, Utah 79885

> ?g



## MONTHS

MONTHS OF THE YEAR ARE ALWAYS CAPITALIZED.

January

February

March

April

May

June

July

August

September

October

November

December

> ?g

I AM GOING TO DISPLAY A SERIES OF NAMES.  
 IF THE NAME IS CORRECTLY CAPITALIZED, ENTER Y.  
 IF IT IS NOT CORRECTLY CAPITALIZED, ENTER N.

Mr. h.k. Green	?n	GREAT! IT SHOULD BE WRITTEN	Mr. H.K. Green
Boxwood Lane	?y	CORRECT.	
new hampshire	?n	TERRIFIC. IT SHOULD BE WRITTEN	New Hampshire
october	?y	NOT QUITE RIGHT. IT SHOULD BE WRITTEN	October
Mr. Alfred Block	?y	GREAT!	
Maple drive	?n	TERRIFIC IT SHOULD BE WRITTEN	Maple Drive
January	?y	CORRECT.	
Cascade Jewelry	?y	TERRIFIC.	
Redwood city	?n	YOU'RE RIGHT. IT SHOULD BE WRITTEN	Redwood City
Doug's donut Shop	?n	GOOD. IT SHOULD BE WRITTEN	Doug's Donut Shop
> ?g			

## THE GREETING

THE FIRST WORD AND ALL OTHER NOUNS IN THE GREETING ARE CAPITALIZED. FOR EXAMPLE:

Dear Sir or Madam:

Dear Mr. Whitney:

Gentlemen:

> ?g

1255 Woods Avenue  
Emory, Ohio 24642  
November 30, 1982

Village Book Store  
3 East Main Street  
Winton, Ohio 24640

I would like to order four copies of  
"Where the Red Fern Grows" by W. Rawls.

I am enclosing a check for \$10.50 to  
pay for the books and postage.

Sincerely yours,

Lynn's signature

Lynn Rocktasch

LYNN WOULD LIKE TO USE  
DEAR SIR AS THE GREETING  
FOR HER LETTER, BUT SHE  
IS NOT SURE HOW IT NEEDS  
TO BE CAPITALIZED.

PLEASE ENTER IT FOR HER  
---->?Dear Sir:

YOU'RE RIGHT. YOU HAVE  
CAPITALIZED THE FIRST  
WORD AND ALL OTHER NOUNS.

> ?g

## THE CLOSING

ONLY THE FIRST WORD OF THE CLOSING IS CAPITALIZED.  
COMMON CLOSINGS ARE:

Very truly yours,

Sincerely yours,

Respectfully yours,

> ?g

1255 Woods Avenue  
Emory, Ohio 24642  
November 30, 1982

Village Book Store  
3 East Main Street  
Winton, Ohio 24640

Dear Sir:

I would like to order four copies of  
"Where the Red Fern Grows" by W. Rawls.

I am enclosing a check for \$10.50 to  
pay for the books and postage.

LYNN WOULD LIKE TO USE  
SINCERELY YOURS AS THE  
CLOSING FOR HER LETTER.

PLEASE ENTER IT FOR HER  
---->?Sincerely yours,

GOOD ANSWER. WHEN YOU  
WRITE THE CLOSING ONLY  
THE FIRST WORD SHOULD  
BE CAPITALIZED.

> ?g

Lynn's signature

Lynn Rocktasch

I AM GOING TO DISPLAY A SERIES OF GREETINGS  
AND CLOSINGS.

IF THE EXAMPLE IS CORRECT, ENTER Y.

IF IT IS NOT CORRECT, THEN ENTER N.

Dear sir:	?n	CORRECT. IT SHOULD BE WRITTEN	Dear Sir:
Gentlemen:	?y	GOOD THINKING.	
Very Truly Yours,	?n	GOOD. IT SHOULD BE WRITTEN	Very truly yours,
sincerely yours,	?n	YOU'RE RIGHT. IT SHOULD BE WRITTEN	Sincerely yours,
dear mr. platt:	?n	GOOD ANSWER. IT SHOULD BE WRITTEN	Dear Mr. Platt:
Dear Madam:	?y	GOOD.	
Yours truly,	?y	GREAT!	
Sincerely,	?y	CORRECT.	
ladies:	?y	NOT EXACTLY. IT SHOULD BE WRITTEN	Ladies:

> ?g

## BUSINESS LETTER TOPICS

1. LETTER FORM \*
2. CAPITALIZATION \*
3. PUNCTUATION
4. LETTER CONTENT \*
5. END LESSON FOR TODAY

THE TOPICS YOU HAVE ALREADY STUDIED ARE FOLLOWED BY AN \*.  
YOU MAY REVIEW ONE OF THESE TOPICS OR CHOOSE A NEW ONE.

ENTER THE NUMBER OF YOUR CHOICE---->?3



## THE COMMA

IN A DATE, THE COMMA IS PLACED BETWEEN THE DAY OF THE MONTH AND THE YEAR.

June 11, 1983

THE COMMA SHOULD BE PLACED RIGHT AFTER THE DAY OF THE MONTH AND SHOULD BE FOLLOWED BY A SPACE SO THAT THE NUMBERS ARE SEPARATED.

> ?g

1255 Woods Avenue  
Emory, Ohio 24642

Village Book Store  
3 East Main Street  
Winton, Ohio 24640

Dear Sir:

I would like to order four copies of  
"Where the Red Fern Grows" by W. Rawls.

I am enclosing a check for \$10.50 to  
pay for the books and postage.

Sincerely yours,

Lynn's signature

Lynn Rocktasch

THIS LETTER WAS WRITTEN  
ON THE FIFTH DAY OF MAY  
IN THE YEAR 1982.

ENTER THE DATE AS IT  
SHOULD APPEAR IN THE  
LETTER

----->?May 5, 1982

GOOD ANSWER. THE COMMA  
IS CORRECT WHEN PLACED  
AFTER THE DAY OF THE  
MONTH.

> ?g

I AM GOING TO DISPLAY A SERIES OF DATES.  
 IF THE DATE IS CORRECT, ENTER Y.  
 IF IT IS NOT CORRECT, THEN ENTER N.

July 1, 1978	?y	CORRECT.	
May 22 1982,	?y	NOT RIGHT. IT SHOULD BE WRITTEN	May 22, 1982
February 8 1981	?y	NOT EXACTLY. IT SHOULD BE WRITTEN	February 8, 1981
June 30 1982	?y	NOT RIGHT. IT SHOULD BE WRITTEN	June 30, 1982
April 11, 1968	?n	I DON'T THINK SO. THIS DATE IS CORRECT.	
January, 6 1980	?n	CORRECT. IT SHOULD BE WRITTEN	January 6, 1980
December 4 1962	?y	NOT QUITE RIGHT. IT SHOULD BE WRITTEN	December 4, 1962
July 23 1982	?y	I DON'T THINK SO. IT SHOULD BE WRITTEN	July 23, 1982
October, 31 1982	?y	NO. IT SHOULD BE WRITTEN	October 31, 1982
November 1 1980	?y	NO. IT SHOULD BE WRITTEN	November 1, 1980
> ?g			

LET'S TRY THE EXERCISES AGAIN TO SEE IF YOU CAN IMPROVE YOUR SCORE. BE SURE TO LOOK CAREFULLY AT THE PUNCTUATION BEFORE YOU ENTER YOUR ANSWER.

REMEMBER! A COMMA ALWAYS FOLLOWS A DAY OF THE MONTH.

March 11, 1980

> ?g

I AM GOING TO DISPLAY A SERIES OF DATES.  
 IF THE DATE IS CORRECT, ENTER Y.  
 IF IT IS NOT CORRECT, THEN ENTER N.

July 1, 1978	?y	TERRIFIC.	
May 22 1982,	?n	GREAT! IT SHOULD BE WRITTEN	May 22, 1982
February 8 1981	?n	CORRECT. IT SHOULD BE WRITTEN	February 8, 1981
June 30 1982	?n	GOOD. IT SHOULD BE WRITTEN	June 30, 1982
April 11, 1968	?y	YOU'RE RIGHT.	
January, 6 1980	?n	CORRECT. IT SHOULD BE WRITTEN	January 6, 1980
December 4 1962	?y	NOT QUITE RIGHT. IT SHOULD BE WRITTEN	December 4, 1962
July 23 1982	?y	I DON'T THINK SO. IT SHOULD BE WRITTEN	July 23, 1982
October, 31 1982	?n	GOOD THINKING. IT SHOULD BE WRITTEN	October 31, 1982
November 1 1980	?y	NO. IT SHOULD BE WRITTEN	November 1, 1980
> ?g			

## THE COMMA

A COMMA IS USED BETWEEN THE NAME OF A CITY OR TOWN AND THE NAME OF ITS STATE. THE ZIP CODE ALWAYS FOLLOWS THE STATE NAME.

Rochester, New York 14604

ABBREVIATIONS SHOULD BE AVOIDED WHEN YOU ARE WRITING A BUSINESS LETTER. IF YOU USE Rochester, N.Y. 14604, THE LETTER IS WRONG.

> ?g

1255 Woods Avenue

November 30, 1982

Village Book Store  
3 East Main Street  
Winton, Ohio 24640

Dear Sir:

I would like to order four copies of  
"Where the Red Fern Grows" by W. Rawls.

I am enclosing a check for \$10.50 to  
pay for the books and postage.

Sincerely yours,

Lynn's signature

Lynn Rocktasch

LYNN LIVES IN THE CITY  
OF EMORY IN THE STATE  
OF OHIO. HER ZIP CODE  
IS 24642.

ENTER THIS INFORMATION  
AS IT SHOULD APPEAR IN  
THE LETTER HEADING.

---->?Emory, Ohio 24642

YOU'RE RIGHT. THE COMMA  
BELONGS AFTER THE CITY  
NAME.

LOOK AT THE HEADING NOW  
THAT THIS LINE HAS BEEN  
ENTERED.

> ?g

I AM GOING TO DISPLAY A SERIES OF ADDRESSES.  
 IF THE ADDRESS IS CORRECT, ENTER Y.  
 IF IT IS NOT CORRECT, THEN ENTER N.

Tabor, Iowa 56420	?y	GOOD ANSWER.	
Reno Nevada, 82336	?n	TERRIFIC. IT SHOULD BE WRITTEN	Reno, Nevada 82336
Ogden Utah 79842	?y	GOOD ANSWER. IT SHOULD BE WRITTEN	Ogden, Utah 79842
Akron, Ohio 43895	?y	GOOD.	
Boise Idaho, 64337	?n	GOOD THINKING. IT SHOULD BE WRITTEN	Boise, Idaho 64337
Waco Texas 53111	?n	GREAT! IT SHOULD BE WRITTEN	Waco, Texas 53111
Ames, Iowa 43890	?y	TERRIFIC.	
Provo Utah, 79843	?n	CORRECT. IT SHOULD BE WRITTEN	Provo, Utah 79843
Bend Oregon 99821	?n	CORRECT. IT SHOULD BE WRITTEN	Bend, Oregon 99821
Logan, Utah 79890	?y	RIGHT.	

> ?g



## THE COMMA

THE COMMA ALWAYS FOLLOWS THE CLOSING IN A LETTER.  
THE MOST COMMON CLOSINGS USED ARE:

Very truly yours,

Sincerely yours,

Respectfully yours,

> ?g

1255 Woods Avenue  
Emory, Ohio 24642  
November 30, 1982

Village Book Store  
3 East Main Street  
Winton, Ohio 24640

Dear Sir:

I would like to order four copies of  
"Where the Red Fern Grows" by W. Rawls.

I am enclosing a check for \$10.50 to  
pay for the books and postage.

Sincerely yours

Lynn's signature

Lynn Rocktasch

THE CLOSING IS MISSING  
THE CORRECT PUNCTUATION  
IN LYNN'S LETTER.

PLEASE ENTER IT FOR HER.

---->?,

GOOD THINKING. A COMMA  
IS JUST WHAT BELONGS AT  
THE END OF EVERY CLOSING.

> ?g

I AM GOING TO DISPLAY A SERIES OF CLOSINGS.  
 IF THE CLOSING IS CORRECT, ENTER Y.  
 IF IT IS NOT CORRECT, THEN ENTER N.

Sincerely,	?y	GOOD ANSWER.
Yours truly,	?y	TERRIFIC.
Respectfully yours	?y	ARE YOU SURE ABOUT THAT? IT SHOULD BE WRITTEN    Respectfully yours,
Very truly, yours	?n	GOOD. IT SHOULD BE WRITTEN    Very truly yours,
Sincerely yours,	?y	CORRECT, YOU'RE DOING FINE.

> ?g

## THE COLON

A COLON IS USED AFTER THE SALUTATION OF A BUSINESS LETTER. IF YOU DO NOT KNOW THE NAME OF THE PERSON TO WHOM YOU ARE WRITING, USE A GENERAL GREETING SUCH AS:

Dear Sir:

IF YOU ARE WRITING TO A SPECIFIC PERSON, USE Dear AND THE PERSON'S NAME SUCH AS:

Dear Miss Tornabene:

> ?g

1255 Woods Avenue  
Emory, Ohio 24642  
November 30, 1982

Village Book Store  
3 East Main Street  
Winton, Ohio 24640

Dear Sir

I would like to order four copies of  
"Where the Red Fern Grows" by W. Rawls.

I am enclosing a check for \$10.50 to  
pay for the books and postage.

Sincerely yours,

Lynn's signature

Lynn Rocktasch

LYNN HAS USED A GENERAL  
GREETING IN THIS LETTER.  
HOWEVER, THE PUNCTUATION  
MARK HAS NOT BEEN ADDED.

ENTER THE CORRECT ONE  
---->?:

GREAT ANSWER!  
THE SALUTATION MUST BE  
FOLLOWED BY A COLON TO  
BE CORRECT.

> ?g

I AM GOING TO DISPLAY A SERIES OF GREETINGS.  
 IF THE GREETING IS CORRECT, ENTER Y.  
 IF IT IS NOT CORRECT, THEN ENTER N.

Gentlemen	?n	GOOD. IT SHOULD BE WRITTEN	Gentlemen:
Dear Sir:	?y	GOOD.	
Dear Mr. Smith:	?y	GOOD ANSWER.	
Dear Mrs. Clark	?n	GREAT! IT SHOULD BE WRITTEN	Dear Mrs. Clark:
Dear Madam	?n	GREAT! IT SHOULD BE WRITTEN	Dear Madam:

> ?g

YOU HAVE JUST COMPLETED THE LESSONS DESIGNED TO TEACH YOU ABOUT BUSINESS LETTER WRITING. YOU WILL NOW BEGIN A SERIES OF EXERCISES SO THAT YOU MAY PRACTICE THE SKILLS YOU LEARNED. I WILL DISPLAY A LETTER AND THEN THERE WILL BE A SERIES OF QUESTIONS FOR YOU TO ANSWER.

(automatic transfer to Letter 1 of drill)

	II	
	II	
	II	
BUSINESS	II	
	II	
LETTER	II	
	II	
WRITING	II	
	II	
	II	
	II	
	II	PRACTICE SESSIONS DESIGNED
	II	TO IMPROVE YOUR
	II	LETTER WRITING SKILLS
	II	
	II	
	II	

TO BEGIN PLEASE ENTER YOUR NUMBER----->?3



HI JIM

WOULD YOU LIKE TO REVIEW BUSINESS LETTER TERMS  
BEFORE YOU BEGIN TODAY'S EXERCISES? (Y/N)---->?n

## HERE IS YOUR PROGRESS REPORT

<u>LETTER</u>	<u>COMMENT</u>	<u>LETTER</u>	<u>COMMENT</u>
1	LETTER FINISHED	11	REPEAT ALLOWED
2	REPEAT ALLOWED	12	REPEAT ALLOWED
3	LETTER FINISHED		
4	LETTER FINISHED		
5	LETTER FINISHED		
6	LETTER FINISHED		
7	IGNORED		
8	IGNORED		
9	REPEAT ALLOWED		
10	REPEAT ALLOWED		

YOU MAY REPEAT ANY OF THE LETTERS LISTED ABOVE EXCEPT THOSE MARKED FINISHED.

DO YOU WANT TO REPEAT A LETTER? (Y/N)---->?n

YOUR NEXT LETTER WILL BE # 13

DO YOU HAVE TIME TO DO IT NOW? (Y/N)---->?y

ogden utah 37222  
may 6 1982

party palace  
23 north elm  
Salem Oregon, 53221

Dear sir.

I am planning a party and I would like to order  
some of your birthday items.

I am sending you a check for \$7.50 which is  
enough to cover the party items as well as postage.

yours truly  
Jennifer Vergo  
Jennifer's signature

LET'S LOOK AT THE HEADING OF THE LETTER FIRST.  
CONSIDER THE LOCATION, LINE ORDER, CAPITALIZATION AND PUNCTUATION  
OF THE HEADING SHOWN ABOVE. IS EVERYTHING CORRECT? (Y/N)---->?n

FANTASTIC ANSWER. THE HEADING DOES CONTAIN ERRORS.  
FIRST WE WILL LOOK AT THE FORM OF THE HEADING AND THEN  
WE WILL ANALYZE THE CAPITALIZATION AND PUNCTUATION OF EACH LINE.

IS THE HEADING FORM (LOCATION AND LINE ORDER) CORRECT? (Y/N)---->?n

CORRECT.

> ?g

ogden utah 37222                      LINE 1

may 6 1982                              LINE 2

ONE OF THE FOLLOWING STATES THE FORM ERROR.

1. A LINE IS OUT OF ORDER.
2. THERE IS MISSING INFORMATION.
3. A LINE DOES NOT BELONG.
4. THERE IS INCORRECT PLACEMENT.

ENTER THE NUMBER OF THE FORM ERROR---->?2

GREAT.

JENNIFER WOULD NOT GET HER ORDER WITH THE ADDRESS LIKE THIS.

> ?g

ogden utah 37222                      LINE 1

may 6 1982                              LINE 2

THE MISSING INFORMATION IS:

1. THE DATE
2. THE COMPANY NAME
3. THE STREET ADDRESS
4. THE CITY, STATE AND ZIP CODE
5. BOTH STREET ADDRESS AND CITY, STATE

ENTER THE NUMBER OF THE MISSING INFORMATION----->?8

ENTER NUMBER (1-5)----->?3

GOOD.

THE LETTER WRITER'S STREET ADDRESS IS MISSING.

> ?g

4 brook avenue. LINE 1

ogden utah 73222 LINE 2

may 6 1982 LINE 3

HERE IS THE HEADING WITH THE CORRECT FORM.

THE NEXT TASK IS TO DETERMINE IF THE INDIVIDUAL HEADING LINES ARE CORRECTLY WRITTEN. WHEN CHECKING THESE LINES YOU SHOULD LOOK AT PUNCTUATION AND CAPITALIZATION.

IS LINE 1 CORRECT? (Y/N)---->?n

YOU'RE RIGHT.

ENTER LINE 1 AS YOU THINK IT SHOULD BE WRITTEN

---->?4 Brook Avenue

CAPITALIZATION:

GOOD ANSWER.

PUNCTUATION:

GREAT! YOU REMOVED THE INCORRECT PUNCTUATION.

> ?g

4 brook avenue. LINE 1

ogden utah 73222 LINE 2

may 6 1982 LINE 3

IS LINE 2 CORRECT? (Y/N)---->?n

CORRECT, YOU'RE DOING FINE.

ENTER LINE 2 AS YOU THINK IT SHOULD BE WRITTEN

---->?Ogden, Utah 73222

CAPITALIZATION:

GOOD ANSWER.

PUNCTUATION:

CORRECT.

> ?g

4 brook avenue. LINE 1

ogden utah 73222 LINE 2

may 6 1982 LINE 3

IS LINE 3 CORRECT? (Y/N)---->?n

GOOD ANSWER.

ENTER LINE 3 AS YOU THINK IT SHOULD BE WRITTEN

---->?May 6, 1982

CAPITALIZATION:

GOOD.

PUNCTUATION:

RIGHT.

> ?g



4 Brook Avenue  
 Ogden, Utah 37222  
 May 6, 1982

party palace  
 23 north elm  
 Salem Oregon, 53221

Dear sir.

I am planning a party and I would like to order  
 some of your birthday items.

I am sending you a check for \$7.50 which is  
 enough to cover the party items as well as postage.

yours truly  
 Jennifer Vergo  
 Jennifer's signature

THE HEADING IS NOW PERFECT.

NEXT WE WILL LOOK AT THE INSIDE ADDRESS.

CONSIDER THE LOCATION, LINE ORDER, CAPITALIZATION AND PUNCTUATION OF  
 THE INSIDE ADDRESS SHOWN ABOVE. IS EVERYTHING CORRECT? (Y/N)---->?n

FANTASTIC ANSWER.

FIRST WE WILL LOOK AT THE FORM OF THE INSIDE ADDRESS AND THEN  
 WE WILL ANALYZE THE CAPITALIZATION AND PUNCTUATION OF EACH LINE.

IS THE INSIDE ADDRESS FORM CORRECT? (Y/N)---->?y

GOOD ANSWER. THE INSIDE ADDRESS INCLUDES THE COMPANY  
 NAME FOLLOWED BY THE STREET ADDRESS AND THEN CITY.

> ?g

party palace	LINE 1
23 north elm	LINE 2
Salem Oregon, 53221	LINE 3

YOU MUST LOOK AT EACH LINE TO FIND PUNCTUATION  
AND CAPITALIZATION ERRORS.

IS LINE 1 CORRECT? (Y/N)---->?n

CORRECT, YOU'RE DOING FINE.  
ENTER LINE 1 AS YOU THINK IT SHOULD BE WRITTEN

---->?Party palace

CAPITALIZATION:

NOT EXACTLY.

BOTH WORDS IN THIS COMPANY'S NAME NEED CAPITALS.

PUNCTUATION:

THAT'S RIGHT, THE LINE IS CORRECT WITH NO PUNCTUATION.

ENTER LINE 1 AGAIN

---->?Party Palace

CAPITALIZATION:

GOOD THINKING.

PUNCTUATION:

THAT'S RIGHT, THE LINE IS CORRECT WITH NO PUNCTUATION.

> ?g

party palace                      LINE 1  
 23 north elm                      LINE 2  
 Salem Oregon, 53221           LINE 3

IS LINE 2 CORRECT? (Y/N)---->y

NOT QUITE.

REMEMBER, A STREET NAME NEEDS TO BE CAPITALIZED.  
 ENTER LINE 2 AS YOU THINK IT SHOULD BE WRITTEN

---->23 North elm

CAPITALIZATION:

NOT EXACTLY.

North and Elm BOTH NEED CAPITAL LETTERS.

PUNCTUATION:

THAT'S RIGHT, THE LINE IS CORRECT WITH NO PUNCTUATION.

ENTER LINE 2 AGAIN

---->23 North ELM

CAPITALIZATION:

TOO MANY CAPITAL LETTERS HAVE BEEN USED.

PUNCTUATION:

THAT'S RIGHT, THE LINE IS CORRECT WITH NO PUNCTUATION.

THE CORRECT WAY TO WRITE THIS LINE IS:

23 North Elm

> ?g

party palace	LINE 1
23 north elm	LINE 2
Salem Oregon, 53221	LINE 3

IS LINE 3 CORRECT? (Y/N)---->?Y

SORRY.

DID YOU NOTICE THE POSITION OF THE COMMA?

ENTER LINE 3 AS YOU THINK IT SHOULD BE WRITTEN

---->?Salem Oregon 53221

CAPITALIZATION:

GREAT.

PUNCTUATION:

THE REQUIRED PUNCTUATION HAS NOT BEEN ENTERED.

A COMMA SHOULD BE PLACED AFTER THE CITY.

ENTER LINE 3 AGAIN

---->?Salem , Oregon 53221

CAPITALIZATION:

GOOD THINKING.

PUNCTUATION:

VERY GOOD, YOU REMOVED THE INCORRECT PUNCTUATION.

> ?g

4 Brook Avenue  
Ogden, Utah 37222  
May 6, 1982

Party Palace  
23 North Elm  
Salem, Oregon 53221

Dear sir.

I am planning a party and I would like to order  
some of your birthday items.

I am sending you a check for \$7.50 which is  
enough to cover the party items as well as postage.

yours truly  
Jennifer Vergo  
Jennifer's signature

NOW THE HEADING AND INSIDE ADDRESS ARE PERFECT.

NEXT WE WILL LOOK AT THE SALUTATION, THE BODY, AND THE CLOSING.

> ?g

Dear sir.

I am planning a party and I would like to order some of your birthday items.

I am sending you a check for \$7.50 which is enough to cover the party items as well as postage.

yours truly  
Jennifer Vergo  
Jennifer's signature

THE SALUTATION FOR THIS LETTER IS  
Dear sir.

IS THE SALUTATION CORRECT? (Y/N)---->y

NO.

ANOTHER CAPITAL IS NEEDED AND THE PUNCTUATION IS WRONG.  
ENTER THE SALUTATION AS YOU THINK IT SHOULD BE WRITTEN

---->?Dear Sir:

CAPITALIZATION:

YOU'RE RIGHT.

PUNCTUATION:

VERY GOOD, YOU REMOVED THE INCORRECT PUNCTUATION.

> ?g

Dear Sir:

I am planning a party and I would like to order some of your birthday items.

I am sending you a check for \$7.50 which is enough to cover the party items as well as postage.

yours truly  
Jennifer Vergo  
Jennifer's signature

NOW THE SALUTATION IS PERFECT.

THE BODY OF THE LETTER IS MOST IMPORTANT. SEE IF THIS LETTER PROVIDES ALL THE INFORMATION YOU THINK IT SHOULD.

THE FIRST PARAGRAPH MUST DESCRIBE THE ITEM BEING ORDERED. DO YOU THINK

1. IT LOOKS GOOD THE WAY IT IS.
2. AN ITEM CANNOT BE ORDERED WITH THE INFORMATION GIVEN.

ENTER THE NUMBER THAT REPRESENTS YOUR ANSWER---->?1

NOT EXACTLY.

JENNIFER DID NOT GIVE ENOUGH INFORMATION ABOUT WHAT SHE WANTED.

> ?g

Dear Sir:

I am planning a party and I would like to order some of your birthday items.

I am sending you a check for \$7.50 which is enough to cover the party items as well as postage.

yours truly  
Jennifer Vergo  
Jennifer's signature

THE SECOND PARAGRAPH SHOULD TELL HOW THE PAYMENT IS BEING MADE AND SHOULD SPECIFY THE AMOUNT OF MONEY BEING SENT.  
DO YOU THINK

1. IT LOOKS GOOD.
2. THE METHOD OF PAYMENT IS MISSING.
3. THE PAYMENT AMOUNT IS MISSING.

ENTER THE NUMBER THAT REPRESENTS YOUR ANSWER----->?1

TERRIFIC.

JENNIFER WAS RIGHT TO SEND A CHECK AND TO GIVE ITS AMOUNT.

> ?g



Dear Sir:

I am planning a party and I would like to order one of your #4i61 Party Kits for \$6.15.

I am sending you a check for \$7.50 which is enough to cover the party items as well as postage.

yours truly  
Jennifer Vergo  
Jennifer's signature

TAKE TIME TO LOOK AT THE IMPROVEMENTS IN THE LETTER CONTENT.  
> ?g

Dear Sir:

I am planning a party and I would like to order one of your #4861 Party Kits for \$6.15.

I am sending you a check for \$7.50 which is enough to cover the party items as well as postage.

yours truly  
Jennifer Vergo  
Jennifer's signature

LET'S LOOK AT THE CLOSING, SIGNATURE AND TYPED NAME.  
CONSIDER THE LOCATION, LINE ORDER, CAPITALIZATION  
AND PUNCTUATION. IS EVERYTHING CORRECT? (Y/N)---->?n

FANTASTIC ANSWER. THERE ARE DEFINITELY ERRORS TO BE FOUND.  
FIRST WE WILL EXAMINE THE FORM AND THEN WE WILL ANALYZE  
THE CAPITALIZATION AND PUNCTUATION OF THE CLOSING.  
> ?g

Dear Sir:

I am planning a party and I would like to order one of your #4861 Party Kits for \$6.15.

I am sending you a check for \$7.50 which is enough to cover the party items as well as postage.

yours truly  
Jennifer Vergo  
Jennifer's signature

ONE OF THE FOLLOWING COMMENTS CAN BE MADE ABOUT THE FORM.

- |                           |                          |
|---------------------------|--------------------------|
| 1. EVERYTHING LOOKS FINE  | 4. CLOSING IS MISSING.   |
| 2. PLACEMENT IS WRONG     | 5. SIGNATURE IS MISSING  |
| 3. LINES ARE OUT OF ORDER | 6. TYPED NAME IS MISSING |

ENTER THE NUMBER THAT REPRESENTS YOUR ANSWER----->?4

NOT EXACTLY.

JENNIFER HAS ALL THE INFORMATION BUT SHE MIXED IT UP.  
PLEASE ENTER ANOTHER CHOICE----->?3

GREAT.

JENNIFER'S TYPED NAME SHOULD BE UNDER HER SIGNATURE.

> ?g

Dear Sir:

I am planning a party and I would like to order one of your #4i61 Party Kits for \$6.15.

I am sending you a check for \$7.50 which is enough to cover the party items as well as postage.

yours truly  
Jennifer's signature  
Jennifer Vergo

THIS IS HOW THE CLOSING AND SIGNATURE SHOULD LOOK.

THE LAST THING TO CHECK IS THE PUNCTUATION AND CAPITALIZATION OF THE CLOSING.

DOES IT LOOK CORRECT? (Y/N)---->?n

RIGHT.

ENTER THE CLOSING AS YOU THINK IT SHOULD BE WRITTEN

---->?Yours Truly,

SPELLING:

Yours truly, IS CORRECT FOR THIS CLOSING.

CAPITALIZATION:

TOO MANY CAPITAL LETTERS HAVE BEEN USED.

PUNCTUATION:

GREAT!

PLEASE ENTER THE LINE AGAIN

---->?Yours truly,

CAPITALIZATION:

TERRIFIC.

PUNCTUATION:

GREAT!

> ?g

4 Brook Avenue  
Ogden, Utah 37222  
May 6, 1982

Party Palace  
23 North Elm  
Salem, Oregon 53221

Dear Sir:

I am planning a party and I would like to order  
one of your #4i61 Party Kits for \$6.15.

I am sending you a check for \$7.50 which is  
enough to cover the party items as well as postage.

Yours truly,  
Jennifer's signature  
Jennifer Vergo

THIS LETTER LOOKS MUCH BETTER THAN THE ORIGINAL.  
I HOPE YOU AGREE.  
> ?g

YOU HAVE JUST COMPLETED LETTER # 13  
YOUR GRADES FOR THIS LETTER ARE:

LETTER CONTENT	- B
LETTER FORM	- A
PUNCTUATION	- B
CAPITALIZATION	- B

COMMENT - REPEAT ALLOWED

WOULD YOU LIKE TO REPEAT THIS LETTER NOW? (Y/N)---->n

YOUR NEXT LETTER WILL BE LETTER # 14

DO YOU HAVE TIME TO DO IT NOW? (Y/N)---->n

PROGRAM TERMINATING, SEE YOU NEXT WEEK.

END



HI JIM

YOU ARE JUST BEGINNING A SERIES OF EXERCISES  
DESIGNED TO GIVE YOU PRACTICE WITH BUSINESS LETTERS.

I WILL DISPLAY A LETTER AND THEN THERE WILL BE  
A SERIES OF QUESTIONS ABOUT THE FORM AND CONTENT  
OF THE LETTER. THERE WILL ALSO BE QUESTIONS  
ABOUT CAPITALIZATION AND PUNCTUATION.

LET'S LOOK AT A SAMPLE LETTER AND DEFINE THE  
TERMS YOU WILL BE EXPECTED TO USE THROUGHOUT  
THE EXERCISES.

THERE WILL BE TIMES WHEN I WILL NEED YOU  
TO TELL ME WHEN YOU ARE READY FOR MORE INFORMATION.  
WHEN THIS HAPPENS, I WILL DISPLAY THE CHARACTER > .

YOU SHOULD PRESS THE LETTER G FOLLOWED BY THE  
RETURN KEY WHEN YOU ARE READY FOR ME TO CONTINUE.  
LET'S TRY IT NOW.

> ?g



1. 44 Van Tappen Lane  
Orinda, California 94246  
September 18, 1982
2. Sports Supply, Inc.  
1000 Van Ness Boulevard  
San Francisco, California 94412
3. Dear Sir:  
Please send me one blue hooded sweatshirt as advertised  
in today's Chronicle for a price of \$9.99. I need size medium.  
Enclosed please find my check for \$11.27 to cover the  
cost of the sweatshirt and postage.
5. Very truly yours,
6. ROGER'S SIGNATURE  
Roger's signature

LOOK AT THE LETTER ABOVE. EACH PART OF THE LETTER  
HAS BEEN POSITIONED ON THE PAPER IN THE CORRECT LOCATION.  
EACH PART HAS ALL THE NECESSARY INFORMATION IN THE CORRECT  
ORDER, SO WE SAY THAT THE LETTER FORM IS CORRECT.

> ?g

1. 44 Van Tappen Lane  
Orinda, California 94246  
September 18, 1982
2. Sports Supply, Inc.  
1000 Van Ness Boulevard  
San Francisco, California 94412
3. Dear Sir:  
Please send me one blue hooded sweatshirt as advertised  
in today's Chronicle for a price of \$9.99. I need size medium.  
Enclosed please find my check for \$11.27 to cover the  
cost of the sweatshirt and postage.
5. Very truly yours,
6. ROGER'S SIGNATURE  
Roger's signature

THE PARTS OF THE LETTER WILL BE NAMED AS FOLLOWS:

- |                       |                           |
|-----------------------|---------------------------|
| 1. THE HEADING        | 4. THE BODY               |
| 2. THE INSIDE ADDRESS | 5. THE CLOSING            |
| 3. THE SALUTATION     | 6. THE WRITER'S SIGNATURE |

> ?g

1. 44 Van Tappen Lane  
Orinda, California 94246  
September 18, 1982
2. Sports Supply, Inc.  
1000 Van Ness Boulevard  
San Francisco, California 94412
3. Dear Sir:  
Please send me one blue hooded sweatshirt as advertised  
in today's Chronicle for a price of \$9.99. I need size medium.  
Enclosed please find my check for \$11.27 to cover the  
cost of the sweatshirt and postage.
5. Very truly yours,
6. ROGER'S SIGNATURE  
Roger's signature

THE HEADING (#1.) IS WRITTEN IN THE TOP RIGHT-HAND CORNER.  
IT CONSISTS OF THREE LINES.

- \* THE FIRST LINE IS YOUR STREET ADDRESS.
- \* THE SECOND LINE IS YOUR CITY, STATE AND ZIPCODE.
- \* THE THIRD LINE IS THE DATE OF THE LETTER.

> ?g

1. 44 Van Tappen Lane  
Orinda, California 94246  
September 18, 1982
2. Sports Supply, Inc.  
1000 Van Ness Boulevard  
San Francisco, California 94412
3. Dear Sir:  
Please send me one blue hooded sweatshirt as advertised  
in today's Chronicle for a price of \$9.99. I need size medium.  
Enclosed please find my check for \$11.27 to cover the  
cost of the sweatshirt and postage.
5. Very truly yours,
6. ROGER'S SIGNATURE  
Roger's signature

THE INSIDE ADDRESS (#2.) ALWAYS BEGINS AT THE LEFT MARGIN.

- \* IT INCLUDES THE COMPANY NAME AND ADDRESS.
- \* IT MAY BEGIN WITH THE NAME OF A PERSON, IF YOU
- \* KNOW TO WHOM YOU ARE WRITING.

> ?g

1. 44 Van Tappen Lane  
Orinda, California 94246  
September 18, 1982
2. Sports Supply, Inc.  
1000 Van Ness Boulevard  
San Francisco, California 94412
3. Dear Sir:  
Please send me one blue hooded sweatshirt as advertised  
in today's Chronicle for a price of \$9.99. I need size medium.  
Enclosed please find my check for \$11.27 to cover the  
cost of the sweatshirt and postage.
5. Very truly yours,
6. ROGER'S SIGNATURE  
Roger's signature

THE SALUTATION (#3.) BEGINS AT THE LEFT MARGIN, TWO LINES  
UNDER THE INSIDE ADDRESS.

- \* IF YOU DON'T KNOW THE NAME OF THE PERSON TO WHOM YOU  
ARE WRITING, USE A GENERAL GREETING SUCH AS Dear Sir:
- \* IF YOU ARE WRITING A SPECIFIC PERSON, USE HIS NAME.

> ?g

1. 44 Van Tappen Lane  
Orinda, California 94246  
September 18, 1982
2. Sports Supply, Inc.  
1000 Van Ness Boulevard  
San Francisco, California 94412
3. Dear Sir:  
Please send me one blue hooded sweatshirt as advertised  
in today's Chronicle for a price of \$9.99. I need size medium.  
Enclosed please find my check for \$11.27 to cover the  
cost of the sweatshirt and postage.
5. Very truly yours,
6. ROGER'S SIGNATURE  
Roger's signature

IN THE BODY (#4.) OF THE LETTER, EACH PARAGRAPH NEEDS TO BE INDENTED AND ALL OTHER LINES BEGIN AT THE LEFT MARGIN.

ALL THE EXERCISES ON BUSINESS LETTER WRITING WILL HAVE CORRECT FORM IN THE BODY OF THE LETTER.

> ?g

1. 44 Van Tappen Lane  
Orinda, California 94246  
September 18, 1982
2. Sports Supply, Inc.  
1000 Van Ness Boulevard  
San Francisco, California 94412
3. Dear Sir:  
Please send me one blue hooded sweatshirt as advertised  
in today's Chronicle for a price of \$9.99. I need size medium.  
Enclosed please find my check for \$11.27 to cover the  
cost of the sweatshirt and postage.
5. Very truly yours,
6. ROGER'S SIGNATURE  
Roger's signature

THE CLOSING (#5.) OF THE LETTER SHOULD LINE UP WITH THE HEAD-  
ING. THE MOST COMMON CLOSINGS FOR A BUSINESS LETTER ARE:

- \* Sincerely yours,
- \* Yours truly,
- \* Respectfully yours,

> ?g

1. 44 Van Tappen Lane  
Orinda, California 94246  
September 18, 1982
2. Sports Supply, Inc.  
1000 Van Ness Boulevard  
San Francisco, California 94412
3. Dear Sir:  
Please send me one blue hooded sweatshirt as advertised  
in today's Chronicle for a price of \$9.99. I need size medium.  
Enclosed please find my check for \$11.27 to cover the  
cost of the sweatshirt and postage.
5. Very truly yours,
6. ROGER'S SIGNATURE  
Roger's signature

THE CLOSING IS FOLLOWED BY YOUR SIGNATURE (#6.). UNDERNEATH YOUR SIGNATURE, YOUR NAME APPEARS AGAIN. THIS TIME IT IS TYPED (OR PRINTED) SO YOUR NAME CAN BE CLEARLY READ BY THE PERSON RECEIVING YOUR LETTER.

> ?g



1. 44 Van Tappen Lane  
Orinda, California 94246  
September 18, 1982
2. Sports Supply, Inc.  
1000 Van Ness Boulevard  
San Francisco, California 94412
3. Dear Sir:  
Please send me one blue hooded sweatshirt as advertised  
in today's Chronicle for a price of \$9.99. I need size medium.  
Enclosed please find my check for \$11.27 to cover the  
cost of the sweatshirt and postage.
5. Very truly yours,
6. ROGER'S SIGNATURE  
Roger's signature

WHEN WRITING A LETTER BE SURE TO CAPITALIZE

- \* THE STREET NAME
- \* THE CITY AND STATE
- \* THE COMPANY NAME
- \* THE MONTH
- \* THE FIRST WORD AND ALL OTHER NOUNS IN THE SALUTATION
- \* THE FIRST WORD ONLY IN THE CLOSING

> ?g

1. 44 Van Tappen Lane  
Orinda, California 94246  
September 18, 1982
2. Sports Supply, Inc.  
1000 Van Ness Boulevard  
San Francisco, California 94412
3. Dear Sir:  
Please send me one blue hooded sweatshirt as advertised  
in today's Chronicle for a price of \$9.99. I need size medium.  
Enclosed please find my check for \$11.27 to cover the  
cost of the sweatshirt and postage.
5. Very truly yours,
6. ROGER'S SIGNATURE  
Roger's signature

PUNCTUATION IS IMPORTANT. BE SURE TO:

- \* PLACE A COMMA AFTER A CITY NAME.
- \* PLACE A COMMA AFTER THE DAY.
- \* END THE SALUTATION WITH A COLON.
- \* FOLLOW THE CLOSING WITH A COMMA.

> ?g

1. 44 Van Tappen Lane  
Orinda, California 94246  
September 18, 1982
2. Sports Supply, Inc.  
1000 Van Ness Boulevard  
San Francisco, California 94412

3. Dear Sir:

Please send me one blue hooded sweatshirt as advertised in today's Chronicle for a price of \$9.99. I need size medium.

Enclosed please find my check for \$11.27 to cover the cost of the sweatshirt and postage.

5. Very truly yours,
6. ROGER'S SIGNATURE  
Roger's signature

A BUSINESS LETTER SHOULD BE BRIEF, CLEAR AND TO THE POINT.  
IN THIS SERIES OF EXERCISES WE WILL USE LETTERS OF ORDER  
AS WELL AS LETTERS OF COMPLAINT.

> ?g

1. 44 Van Tappen Lane  
Orinda, California 94246  
September 18, 1982
2. Sports Supply, Inc.  
1000 Van Ness Boulevard  
San Francisco, California 94412
3. Dear Sir:  
Please send me one blue hooded sweatshirt as advertised  
in today's Chronicle for a price of \$9.99. I need size medium.  
Enclosed please find my check for \$11.27 to cover the  
cost of the sweatshirt and postage.
5. Very truly yours,
6. ROGER'S SIGNATURE  
Roger's signature

THE BODY OF A LETTER OF ORDER SHOULD INCLUDE

- \* A CLEAR DESCRIPTION OF THE ITEM YOU WANT TO ORDER
- \* THE FACT THAT YOUR LETTER CONTAINS PAYMENT
- \* THE METHOD OF PAYMENT (CHECK OR MONEY ORDER)
- \* THE PAYMENT AMOUNT AND IF IT INCLUDES POSTAGE

> ?g

1. 44 Van Tappen Lane  
Orinda, California 94246  
September 18, 1982
2. Sports Supply, Inc.  
1000 Van Ness Boulevard  
San Francisco, California 94412
3. Dear Sir:  
Please send me one blue hooded sweatshirt as advertised  
in today's Chronicle for a price of \$9.99. I need size medium.  
Enclosed please find my check for \$11.27 to cover the  
cost of the sweatshirt and postage.
5. Very truly yours,
6. ROGER'S SIGNATURE  
Roger's signature

THE BODY OF A LETTER OF COMPLAINT SHOULD INCLUDE:

- \* WHAT CAUSED THE PROBLEM
- \* ANY DATES INVOLVED IN THE PROBLEM
- \* A DESCRIPTION OF ANY ITEM INVOLVED
- \* A REQUEST FOR ACTION TO SOLVE THE PROBLEM

> ?g

Roger's signature  
44 Van Tappen Lane  
Orinda, California 94246  
September 18 1982

Sports Supply, Inc.  
1905 Market Street  
San Francisco, California 94412

Dear Sir,

Please send me one blue hooded sweatshirt as advertised in today's Chronicle for a price of \$9.99. I need size medium.

Enclosed please find my check for \$11.27 to cover the cost of the sweatshirt and postage.

Very Truly Yours,  
Roger's signature

THE LETTER ABOVE CONTAINS ERRORS. LOOK AT IT CAREFULLY  
AND SEE IF YOU CAN FIND SOME OF THEM.  
> ?g

Roger's signature  
44 Van Tappen Lane  
Orinda, california 94246  
September 18 1982

Sports Supply, Inc.  
1905 Market Street  
San Francisco, California 94412

Dear Sir,

Please send me one blue hooded sweatshirt as advertised  
in today's Chronicle for a price of \$9.99. I need size medium.

Enclosed please find my check for \$11.27 to cover the  
cost of the sweatshirt and postage.

Very Truly Yours,  
Roger's signature

YOU SHOULD HAVE NOTICED THE FOLLOWING ABOUT THE LETTER FORM.

- \* ROGER'S NAME DOES NOT BELONG IN THE HEADING.
- \* THE INSIDE ADDRESS IS CORRECT.
- \* THE CLOSING AND SIGNATURE ARE NOT PROPERLY POSITIONED.
- \* THE TYPEWRITTEN NAME OF THE LETTER WRITER IS MISSING.

> ?g

Roger's signature  
44 Van Tappen Lane  
Orinda, california 94246  
September 18 1982

Sports Supply, Inc.  
1905 Market Street  
San Francisco, California 94412

Dear Sir,

Please send me one blue hooded sweatshirt as advertised  
in today's Chronicle for a price of \$9.99. I need size medium.

Enclosed please find my check for \$11.27 to cover the  
cost of the sweatshirt and postage.

Very Truly Yours,  
Roger's signature

THERE ARE TWO PUNCTUATION ERRORS.

- \* THE DATE NEEDS A COMMA.

September 18, 1982

- \* THE SALUTATION SHOULD END WITH A COLON, NOT A COMMA.

Dear Sir:

> ?g



Roger's signature  
44 Van Tappen Lane  
Orinda, california 94246  
September 18 1982

Sports Supply, Inc.  
1905 Market Street  
San Francisco, California 94412

Dear Sir,

Please send me one blue hooded sweatshirt as advertised  
in today's Chronicle for a price of \$9.99. I need size medium.

Enclosed please find my check for \$11.27 to cover the  
cost of the sweatshirt and postage.

Very Truly Yours,  
Roger's signature

THE FOLLOWING COMMENTS CAN BE MADE ABOUT CAPITALIZATION:

- \* THE COMPANY NAME IS CORRECT.
- \* CALIFORNIA SHOULD BE CAPITALIZED.
- \* THE SALUTATION IS CORRECT.
- \* THE CLOSING SHOULD BE Very truly yours,

> ?g

Roger's signature  
44 Van Tappen Lane  
Orinda, California 94246  
September 18 1982

Sports Supply, Inc.  
1905 Market Street  
San Francisco, California 94412

Dear Sir,

Please send me one blue hooded sweatshirt as advertised in today's Chronicle for a price of \$9.99. I need size medium.

Enclosed please find my check for \$11.27 to cover the cost of the sweatshirt and postage.

Very Truly Yours,  
Roger's signature

IN THE BODY OF THE LETTER, THE WRITER HAS DONE A GOOD JOB.

- \* HE HAS DESCRIBED THE ITEM CLEARLY.
- \* HE HAS TOLD THE PRICE OF THE ITEM.
- \* HE HAS TOLD THAT HE IS ENCLOSING A CHECK.
- \* HE HAS STATED HOW MUCH MONEY HE IS SENDING.

> ?g

WHILE YOU ARE ANSWERING QUESTIONS ABOUT A LETTER, I WILL KEEP TRACK OF YOUR CORRECT ANSWERS. WHEN YOU FINISH AN EXERCISE, YOU WILL GET A MESSAGE THAT LOOKS LIKE THIS:

YOU HAVE JUST COMPLETED LETTER 24  
YOUR GRADES FOR THIS LETTER ARE:

LETTER CONTENT - B

LETTER FORM - A

PUNCTUATION - C

CAPITALIZATION - B

COMMENT - REPEAT ALLOWED

> ?g

THE COMMENT YOU GET WILL DEPEND ON THE WAY YOU ANSWERED THE QUESTIONS. FOR EXAMPLE:

- \* IF YOU HAVE ANSWERED NEARLY ALL THE QUESTIONS CORRECTLY, YOUR COMMENT WILL BE LETTER FINISHED.
- \* IF YOU SEEM TO MISS MOST OF THE PUNCTUATION QUESTIONS I MIGHT SUGGEST THAT YOU SEE YOUR TEACHER FOR ADDITIONAL HELP.
- \* IF YOU DO EXCEPTIONALLY WELL ON ALL LETTERS, I MAY MOVE YOU AHEAD SEVERAL LETTERS. IGNORED WILL BE THE COMMENT FOR LETTERS I PASS OVER.
- \* IF A LETTER MAY BE REPEATED FOR AN IMPROVED SCORE, THE COMMENT WILL BE REPEAT ALLOWED.

> ?g

THE LETTERS THAT YOU HAVE COMPLETED AND MY COMMENTS WILL BE SEEN ONLY BY YOU AND YOUR TEACHER. IF YOU WISH TO TELL SOMEONE HOW YOU HAVE DONE, YOU MAY DO SO. THEY WILL NOT BE ABLE TO FIND OUT FROM ME.

REMEMBER, THE PURPOSE OF THESE EXERCISES IS TO IMPROVE YOUR UNDERSTANDING OF BUSINESS LETTERS. IT IS NOT A TEST NOR IS IT A RACE.

> ?g

SINCE IMPROVEMENT IS THE PURPOSE OF THESE SESSIONS, YOU WILL BE GIVEN EVERY OPPORTUNITY TO IMPORVE YOUR SCORE ON EACH LETTER.

AT THE BEGINNING OF EVERY SESSION YOU WILL BE SHOWN A LIST OF ALL THE LETTERS YOU HAVE COMPLETED ALONG WITH THEIR COMMENTS. YOU WILL BE ASKED IF YOU WISH TO REPEAT ANY OF THE LETTERS.

\* YOU MAY REPEAT ANY LETTER AS MANY TIMES AS YOU WOULD LIKE UNTIL THE COMMENT READS LETTER FINISHED.

\* LETTER FINISHED MEANS THAT YOU HAVE ANSWERED NEARLY ALL THE QUESTIONS CORRECTLY AND THAT YOU SHOULD NOT SPEND ANY MORE TIME ON THE LETTER.

\* YOU MAY REPEAT A LETTER MARKED IGNORED IF YOU WANT ADDITIONAL PRACTICE.

> ?g

IF YOU WANT TO LEAVE THE MACHINE AND WILL  
BE GONE JUST A FEW MINUTES, DO NOTHING SPECIAL....  
I WILL WAIT FOR YOU TO RETURN.

IF YOU MUST LEAVE FOR GOOD, TYPE CONTROL C  
FOLLOWED BY RETURN AS THE ANSWER TO ANY QUESTION.  
IF YOU ARE IN THE MIDDLE OF A LETTER, YOU WILL RECEIVE  
NO SCORE AND NEXT WEEK YOU WILL START THE LETTER  
FROM THE BEGINNING.

> ?g

## APPENDIX B



```
{*      BUSINESS LETTER RECORDS
*
*      This program is designed to facilitate the teacher's
*      use of the records kept for all students using the
*      tutorial and drill on business letter writing.
*}
```

### Program Business Letter Records

```
Define files
Initialize terminal control
Initialize variables
Validate access to records
If not valid then
    log-off
else
    repeat
        display menu choice
        case choice of
            maintain student enrollment
            print class report
            examine student status
            enter student statistics
            prepare for new semester
            terminate program
    until termination requested.
```

```

{*
*   This procedure allows the teacher to maintain
*   the enrollment for those students using the
*   tutorial and drill on business letter writing.
*   These enrollment functions are:
*
*       add student(s)
*       delete student(s)
*       transfer student(s)
*       produce class list(s)
*       sort student records
*}

```

#### Procedure maintain student enrollment

```

Repeat
    display menu choice
    case choice of
        add-student(s)
        delete student(s)
        transfer student(s)
        produce class list(s)
        sort student records
until all enrollment tasks finished.

```

#### Procedure add student(s)

```

Repeat
    repeat
        get student name
        get student number
        get student section
        get tutorial status
    until number not a duplicate and information correct.
    write student record
until all students entered.

```

#### Procedure delete student(s)

```

Repeat
    get and validate student number
    delete student record
until all deletions finished.

```

Procedure transfer student(s)

Repeat

- get and validate student number
- get new section number
- write modified student record

until all transfers finished.

Procedure print class list

Repeat

- get section to list
- if printed report desired then
  - connect printer
- repeat
  - print student name and number
- until section listing finished
- if printer connected then
  - disconnect printer

until all listings finished.

Procedure sort student records

Shell sort by student name (last,first)

```
{*
*   This procedure allows the teacher to get
*   listings of the student's progress. While the student
*   is using the tutorial, this report shows which lessons
*   have been completed. While the student is using the
*   drill, this report shows the grades for each of the
*   letter drills as well as cumulative scores.
*}
```

Procedure print class report

```
Repeat
  get section number
  connect printer
  repeat
    print student name
    if student using tutorial then
      print tutorial progress
    else
      print letter scores
      print cumulative scores
  until all students in section are printed
  disconnect printer
until no more reports desired.
```

```
{*  
*   This procedure allows the teacher to look  
*   at a summary of the student record and  
*   thereby offer appropriate help when the  
*   student status is set to "see the teacher".  
*   After help is given to the student, the  
*   teacher may change the student's status so  
*   that he/she may resume work.  
*}
```

Procedure examine student status

```
Repeat  
  display student name  
  if student using tutorial then  
    display tutorial progress  
  else  
    display cumulative scores  
    if letter marked see teacher then  
      display scores for that letter  
    if status change requested then  
      change status (clear or see teacher)  
until no more records to examine.
```

```
{*
 *   This procedure will allow the entry of
 *   statistics which will be used to evaluate
 *   the effectiveness of the use of the tutorial
 *   and the drill on business letter writing.
*}
```

#### Procedure enter student statistics

Repeat

```
    enter student pretest scores
    enter post test scores
    enter student sex
    enter student computer experience
    enter student computer attitude
    enter student ability
```

until all statistics entered.

```
{*
 *   This procedure initializes all files to empty
 *   in preparation for the entry on new sections of
 *   students at the beginning of a semester.
*}
```

#### Procedure prepare for new semester

```
Clear student directory
Clear student name records
Clear student grade records
```

TEACHER'S INSTRUCTIONS  
FOR  
BUSINESS LETTER RECORDS

STUDENT RECORDS

Business Letter Records (BLREC) is a program designed to manipulate the student records kept by the tutorial and drill on Business Letter Writing.

The enrollment procedures are used to establish the initial enrollment in the program and to add, delete or transfer students as needed throughout the school year.

The report procedures are used to provide both written reports and CRT displays that contain information from the student records. The reports available are:

- A class listing of student name and enrollment number (CRT or paper).

- A display of the current status of a single student (CRT).

- A class listing giving individual student progress (paper).



### Student Record Files

The student record files are SNAME and SGRADE and have been established to hold a maximum of 160 student records. At the beginning of the school year, these files must be cleared, and then the current users enrolled.

For each student enrolled the following information is kept.

Student number - each student is assigned a unique number that will be used by the student for identification at log-in time. The teacher will use this number when it is necessary to perform operations on a particular student record.

Student section - each class will be assigned a section number so that reports may be listed by class. It is for the teacher's use only.

Student name - when the student identifies himself with a log-in number, the program returns with a personalized greeting. Therefore, when the student is enrolled the teacher should attempt to enter the student's first name as it is informally used in class. The student's name will also appear in printed reports and CRT status displays.

Student progress - as a student moves through the program, a record is kept of his progress. In the tutorial, progression points are marked as each major lesson is taught. Should the student find it necessary to stop in the middle of the tutorial during one lesson, the program will be resumed at the appropriate point when the student begins again. Progression is marked in a similar fashion for the drill program.

Student status - If the student makes too many errors, the student status is set so that he/she must see the teacher before continuing.

### Operating Instructions

Depress and lock the CAPS LOCK key.

Enter HEL-E000,password <return>

The system responds by displaying the school name.

Enter GET-BLREC <return>

The system responds by loading the program. This is an invisible operation.

Enter RUN <return>

The program responds by displaying the Main Menu (see Figure 1).

Only a person with the correct account number will be able to use the Business Letter Records program. All others will receive an automatic "BYE".

To run a program option, follow the operating instructions designed for that particular option.

---

#### BUSINESS LETTER RECORDS

1. Maintain Student Enrollment
2. Print Class Report
3. Examine Student Status
4. Enter Student Statistics
5. Prepare for New Semester
6. Terminate Program

Enter the number of your choice---->

Figure 1

---

## MAINTAIN STUDENT ENROLLMENT

THIS PROGRAM SEGMENT IS RUN AT ANY POINT DURING THE SCHOOL YEAR WHEN ENROLLMENT FUNCTIONS ARE NEEDED. AT THE BEGINNING OF THE SCHOOL YEAR ALL STUDENTS ARE ENROLLED VIA THE ADD-STUDENT OPTION. DURING THE YEAR STUDENT RECORDS MAY BE ADDED, DELETED OR TRANSFERRED.

---

### MAINTAIN STUDENT ENROLLMENT

1. Add student(s)
2. Delete Student(s)
3. Transfer Student(s)
4. List Class Enrollment
5. Sort Student Records
6. Return to Main Menu

Enter the number of your choice---->

Figure 2

---

### ADD STUDENT(S)

ENTER STUDENT NAME (LAST,FIRST)---->?SMITH,MARY

ENTER STUDENT NUMBER---->?12

ENTER SECTION NUMBER---->?1

ENROLL STUDENT IN TUTORIAL? (Y/N)---->?Y

IS THE INFORMATION CORRECT AS ENTERED? (Y/N)---->?Y

ARE THERE ADDITIONAL STUDENTS TO ADD? (Y/N)---->?N

Figure 3

---

ADD-STUDENT(S)

All students are enrolled in the Business Letter Writing program using this option. Students may be entered in any order and need not be entered all at one time. Students must, however, be enrolled before they are scheduled to begin the program.

CRT DisplayReply

- |              |                                                                                                                                                                                                            |         |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 1. Display:  | Main Menu (see Figure 1)                                                                                                                                                                                   |         |
| Question:    | Enter the number of your choice---->                                                                                                                                                                       | 1       |
| 2. Display:  | Student Enrollment Menu (see Figure 2)                                                                                                                                                                     |         |
| Question:    | Enter the number of your choice---->                                                                                                                                                                       | 1       |
| 3. Display:  | Add Student (see Figure 3)                                                                                                                                                                                 |         |
| Question:    | Enter student name (last, first)---->                                                                                                                                                                      | name    |
| Note:        | Should you not enter the student name in the required format, you will be asked to repeat your entry.                                                                                                      |         |
| 4. Question: | Enter student number---->                                                                                                                                                                                  | (1-800) |
| Note:        | Each student number must be unique. Should you enter a number already assigned, you will be told that duplicate numbers are not allowed and asked for a new number.                                        |         |
| 5. Question: | Enter section number---->                                                                                                                                                                                  | (1-800) |
| 6. Question: | Enroll student in tutorial? (Y/N)----><br>Enter Y if the student will use both the tutorial and drill.<br>Enter N if the student will use only the drill.                                                  | Y/N     |
| 7. Question: | Is the information correct as entered?                                                                                                                                                                     | Y/N     |
| Note:        | All student data is on the screen at this time. Double check all entries. Enter Y if there are no errors. Enter N if there are errors and return to step 3.                                                |         |
| 8. Question: | Are there additional students to add?                                                                                                                                                                      | Y/N     |
| Note:        | You may enter one or more students at any given time.<br>Enter Y if you have additional students to enroll and return to step 3.<br>Enter N if you are finished and return to the Student Enrollment Menu. |         |

DELETE-STUDENT(S)

Any student record may be deleted from the grade file using this option.

<u>CRT Display</u>	<u>Reply</u>
1. Display: Student Enrollment Menu (see Figure 2) Question: Enter the number of your choice---->	2
2. Display: Delete Student (see Figure 4) Question: Enter student number---->	(1-800)
3. Question: You are deleting the records for .... Is this correct? (Y/N)----> Enter Y if this is the correct student. Enter N if you discover that you entered the wrong student number and this record should not be deleted. You will return to the Student enrollment menu.	Y/N
4. Question: Are there additional students to delete? Enter Y if you have additional deletions and return to step 2. Enter N if you are finished and return to the Student Enrollment Menu.	Y/N

## DELETE STUDENT(S)

ENTER STUDENT NUMBER---->?12

YOU ARE DELETING THE RECORDS FOR SMITH,MARY  
IS THIS CORRECT? (Y/N)---->?Y

ARE THERE ADDITIONAL STUDENTS TO DELETE? (Y/N)---->?N

Figure 4

### TRANSFER-STUDENT(S)

A student's record may be moved from one class to another using this option.

#### CRT Display

#### Reply

- |    |           |                                                                                                                                                                                                     |         |
|----|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 1. | Display:  | Student Enrollment Menu (see Figure 2)                                                                                                                                                              |         |
|    | Question: | Enter the number of your choice---->                                                                                                                                                                | 3       |
| 2. | Display:  | Transfer Student (see Figure 5)                                                                                                                                                                     |         |
|    | Question: | Enter student number---->                                                                                                                                                                           | (1-800) |
| 3. | Question: | You are transferring ... in section ...<br>Is this correct? (Y/N)----><br>Enter Y if this is the correct student.<br>Enter N if it is not and you will<br>return to the Student Enrollment<br>Menu. | Y/N     |
| 4. | Question: | Please enter student's new section---->                                                                                                                                                             | (1-800) |
| 5. | Question: | Are there more students to transfer?<br>Enter Y if there are more students and<br>return to step 2.<br>Enter N if you are finished and return<br>to the Student Enrollment Menu.                    | Y/N     |

### TRANSFER STUDENT(S)

ENTER STUDENT NUMBER----->

YOU ARE TRANSFERRING ... IN SECTION ...

IS THIS CORRECT (Y/N)----->

PLEASE ENTER STUDENT'S NEW SECTION----->

ARE THERE MORE STUDENTS TO TRANSFER (Y/N)----->

Figure 5

### LIST CLASS ENROLLMENT

This option provides a listing of all students enrolled giving student name and number. This listing may be produced on the CRT if the teacher needs verification of class enrollment while working on-line with the student records, or it may provide a printed listing for the teacher's records.

#### CRT Display

#### Reply

- |    |                                  |                                                                                                                                                                                                          |         |
|----|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 1. | Display:                         | Student Enrollment Menu (see Figure 2)                                                                                                                                                                   |         |
|    | Question:                        | Enter the number of your choice---->                                                                                                                                                                     | 4       |
| 2. | Question:                        | Please enter section you want to list                                                                                                                                                                    | (1-800) |
| 3. | See Figure 6 for sample listing. |                                                                                                                                                                                                          |         |
| 4. | Question:                        | Are there additional class lists needed?<br>Enter Y if additional lists are desired<br>and return to step 2.<br>Enter N if no more listings are desired<br>and return to the Student<br>Enrollment Menu. | Y/N     |

---

#### STUDENTS ENROLLED IN E067 SECTION 4

<u>NAME</u>	<u>NUMBER</u>
SMITH,GEORGE	437
CLARK,MARY	122
NEIMES,JOSEPH	50
SCHWARTZ,CAROL	238

Figure 6

---

### PRINT CLASS REPORT

This option provides the teacher with a printed report containing a record of the student's progress through the drill and tutorial programs. It should be run after each class session.

#### CRT Display

#### Reply

1. Display: Main Menu (see Figure 1)  
 Question: Enter the number of your choice----> 2
  
2. Display: Class Report Coming.  
 Set paper to top of page.  
 Question: Please enter section number----> (1-800)
  
3. See Figure 7 for a sample report.
  
4. Question: Are there additional reports needed? Y/N  
 Enter Y for another report and return  
                   to step 3.  
 Enter N if you are finished and return  
                   to the Main Menu.

#### BUSINESS LETTER SCORES SECTION 1

TORNABENE,LINDA

<u>LETTER</u>	<u>TIMES DONE</u>	<u>PUNCTUATION</u>	<u>CAPITALIZATION</u>	<u>CONTENT</u>	<u>FORM</u>
1	1	15/15	20/20	2/2	5/5
2	IGNORED				
3	IGNORED				
4	1	12/14	18/21	0/2	7/7
CUMULATIVE PERCENT		87%	92%	50%	100%
FORCED REVIEWS		0	0	1	0
VOLUNTARY REVIEWS		0	1	0	0

Figure 7



SORT STUDENT RECORDS

This option provides the teacher with the ability to sort the student records so that all reports will be printed in alphabetical order.

CRT DisplayReply

1. Display: Student Enrollment Menu (see Figure 2)
2. Display: Sorting.....Please wait.  
The program will return to the Student Enrollment Menu when the sort finishes.

5

### EXAMINE STUDENT STATUS

This option provides an on-line examination of a student's grade record. It is intended to give the teacher sufficient knowledge about a student so that appropriate help can be given during the class period.

#### CRT Display

#### Reply

- |                                        |                                 |                                                                                                                                                                        |         |
|----------------------------------------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 1.                                     | Display:                        | Main Menu (see Figure 1)                                                                                                                                               |         |
|                                        | Question:                       | Enter the number of your choice---->                                                                                                                                   | 3       |
| 2.                                     | Question:                       | Enter student number---->                                                                                                                                              | (1-800) |
| 3.                                     | See Figure 8 for sample display |                                                                                                                                                                        |         |
| If student in tutorial, skip to step 5 |                                 |                                                                                                                                                                        |         |
| 4.                                     | Question:                       | Do you want to alter the status?<br>Enter Y if status is to be changed.<br>Enter N if no change is needed.                                                             | Y/N     |
| 5.                                     | Question:                       | Are there additional records to check?<br>Enter Y for additional status checks<br>and return to step 2.<br>Enter N if you are finished and return<br>to the Main Menu. | Y/N     |

### STUDENT STATUS

STUDENT NAME	NUMBER	SECTION
xxxxxxxxxxxxx	xxx	xx

CUMULATIVE SCORES			
PUNCTUATION	CAPITALIZATION	CONTENT	FORM
xxx%	xxx%	xxx%	xxx%

SCORES FOR LETTER MARKED SEE TEACHER			
PUNCTUATION	CAPITALIZATION	CONTENT	FORM
xx/xx	xx/xx	xx/xx	xx/xx

DO YOU WANT TO ALTER THE STATUS? (Y/N)---->

ARE THERE ADDITIONAL RECORDS TO CHECK? (Y/N)---->

Figure 8

## ENTER STUDENT STATISTICS

This option is provided for use at the completion of the program so that the student records can be examined to provide reports based on a variety of parameters.

### CRT Display

### Reply

- |              |                                                                                                                                                           |         |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 1. Display:  | Main Menu (see Figure 1)                                                                                                                                  |         |
| Question:    | Enter the number of your choice---->                                                                                                                      | 4       |
| 2. Display:  | Student name .....                                                                                                                                        |         |
| Question:    | enter student sex---->                                                                                                                                    | M/F     |
| 3. Question: | Enter student computer attitude---->                                                                                                                      | (1-5)   |
| 4. Question: | Enter student computer experience---->                                                                                                                    | (1-5)   |
| 5. Question: | Enter student ability code---->                                                                                                                           | ()      |
| 6. Question: | Enter pretest score---->                                                                                                                                  | (1-100) |
| 7. Question: | Enter final test score---->                                                                                                                               | (1-100) |
| 8. Question: | Do you wish to continue? (Y/N)----><br>Enter Y if you have time to enter more<br>statistics and return to step 2.<br>Enter N and return to the Main Menu. | Y/N     |

### PREPARE FOR NEW SEMESTER:

This program segment is run only once at the beginning of each semester in which students will be using the business letter writing tutorial and drill. The purpose is to clear the files of all previous student data.

#### CRT Display

#### Reply

- |    |           |                                                                                                                                                                                                                                      |     |
|----|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 1. | Display:  | Main Menu (see Figure 1)                                                                                                                                                                                                             |     |
|    | Question: | Enter the number of your choice---->                                                                                                                                                                                                 | 5   |
| 2. | Display:  | Warning                                                                                                                                                                                                                              |     |
|    | Question: | Are you sure you want to do this?<br>Enter Y only at the beginning of the<br>semester when you want to<br>clear the files.<br>Enter N should you accidently reach<br>this point at any time when<br>the files should not be cleared. | Y/N |
| 3. | Display:  | Files clearing...please wait.<br>This will take several minutes<br>and when complete you will return<br>to the Main Menu.                                                                                                            |     |

At this point the files are clear. This program segment must not be run again until a new semester begins.

You may now proceed to student enrollment, or you may terminate the program and enroll students at another time.

## APPENDIX C

```
{* LETTER FILE MAINTENANCE
*
* Letter File Maintenance is a series of program segments
* designed to allow the teacher to make changes in the
* letter text and answer key files used with the Business
* Letter Writing course. The options allowed are:
*
*      create a new letter/answer key
*      modify an existing letter/answer key
*      examine letter text file
*      examine answer key file
*}
```

```
{*
* This procedure provides the main menu and the appropriate
* program segment sequence based on the choice selected.
* The modification of an existing letter or key is included
* within this segment.
*}
```

#### LMaint:

```
Define files
Initialize terminal control
Validate access to records
If not valid then
    log-off
else
    repeat
        display menu choice
        case choice of
            create new letter/answer key
            modify existing letter/answer key
            examine letter text - chain "LMEXAM"
            examine answer key - chain "LMEXAM"
            terminate program
    until termination requested.
```

#### Procedure create new letter/answer key

```
Enter number of letter to be created
Chain "LMHEAD"
```

#### Procedure modify existing letter/answer key

Display modification menu

Case choice of  
 change letter  
 change answer key  
 change letter and key together

Procedure change letter

Repeat  
     enter number of letter to be changed  
     display letter to be changed  
     display change menu  
     select entry to change  
     enter change  
 until all changes made.  
 write record.

Procedure change answer key

Repeat  
     enter letter number of key needing change  
     repeat  
         enter section to be changed  
         repeat  
             enter identification of key entry to be changed  
             enter change  
         until all entries changed.  
     until all sections changed.  
 until all letters changed.

Procedure change letter and key together

display letter parts  
 repeat  
     case choice of  
         heading - chain "LMHEAD"  
         inside address - chain "LMIA"  
         salutation - chain "LMIA"  
         body - chain "LMBODY"  
         closing - chain "LMIA"  
 until valid choice selected.

```
{*
 * This procedure collects all information from the user
 * to create a new heading as well as answer key entries
 * appropriate to questions about the heading.
*}
```

#### LMHEAD:

```
Select heading form error (if any)
Enter heading with desired capitalization and punctuation errors
Create appropriate key entries
Enter answer key comments
Write answer key
For each line in heading
    enter corrected line
    enter capitalization matches
    enter answer key comments on capitalization
    enter punctuation matches
    enter answer key comments on punctuation
    write answer key file
If changing only heading then
    chain - "LMAINT"
else
    chain - "LMIA"
```



```
{*
* This procedure collects all information from the user
* to create a new inside address, salutation, signature
* and closing as well as answer key entries appropriate to
* questions about these parts.
*}
```

### LMIA:

```
If inside address changing then
    procedure - inside address
else if salutation changing then
    procedure - salutation
else if closing or signature changing then
    procedure - closing and signature
else if whole letter changing then
    procedure - inside address
    procedure - salutation
    procedure - closing and signature
    chain - "LMBODY"
Chain - "LMAINT"
```

### Procedure - inside address

```
Select inside address form
Enter inside address with capitalization and punctuation errors
Write letter file
Enter comments on inside address form
Write answer key file
For each inside address line
    enter corrected line
    enter capitalization matches
    enter answer key comments on capitalization
    enter punctuation matches
    enter answer key comments on punctuation
    write answer key file
```

### Procedure - Salutation

```
Enter salutation with capitalization and punctuation errors
Write letter file
Enter corrected line
Enter capitalization matches
Enter answer key comments on capitalization
Enter punctuation matches
Enter answer key comments on punctuation
Write answer key file
```

Procedure - Closing and Signature

Enter closing with capitalization and punctuation errors

Enter signature and typed name

Write letter file

Select form error

Enter comments on closing form

Enter corrected line

Enter capitalization matches

Enter answer key comments on capitalization

Enter punctuation matches

Enter answer key comments on punctuation

Write answer key file

```
{*
* This procedure collects all information from the user to
* create a new letter body and answer key comments appropriate
* to questions about the body.
*}
```

LMBODY:

```
Enter type of letter desired (order or complaint)
Enter four lines of letter body
Write letter text file
If first paragraph wrong then
    enter correction
Enter answer key comment for first paragraph
If second paragraph wrong then
    enter correction
Enter answer key comment for second paragraph
Write answer key file
Chain "LMAINT"
```

```
{*
* This procedure allows the user to display either the letter
* or answer key files on the CRT or paper.
*}
```

LMEXAM:

If letter to be examined then

    repeat

        enter number of letter

        enter destination of output

        print letter

    until all letters examined.

else

    repeat

        enter number of letter for answer key to be examined

        enter destination of output

        print letter

    until all answer keys examined.

Chain - "LMAINT"

TEACHER'S INSTRUCTIONS  
FOR  
BUSINESS LETTER RECORDS

FILE MAINTENANCE

Business Letter Maintenance (LMAINT) is a program designed to manipulate files used by the drill on Business Letter Writing. LTEXT is a 40 record file that contains the letter text for each of the twenty exercises. LKEY is a 260 record file that contains the answer keys used to provide comments to students answering drill questions. The options offered are as follows:

1. An existing letter may be examined.
2. An existing answer key may be examined.
3. New files for a letter with appropriate answer key can be created.
4. An existing letter and/or answer key may be modified.

### Operating Instructions

Depress and lock the CAPS LOCK key.

Enter HEL-E000,password <return>

The system responds by displaying the school name.

Enter GET-LMAINT <return>

The system responds by loading the program. This is an invisible operation.

Enter RUN <return>

The program responds by displaying the Main Menu (see Figure 1).

Only a person with the correct account number will be able to use the Business Letter File Maintenance program. All others will receive an automatic "BYE".

To run a program option, follow the operating instructions designed for that particular option.

---

#### LETTER MAINTENANCE

1. Create new letter/answer key
2. Modify existing letter/answer key
3. Examine letter file
4. Examine answer key file
5. Terminate Program

Enter the number of your choice---->

Figure 1

---

### CREATE NEW LETTER

THIS PROGRAM SEGMENT BUILDS THE LETTER TEXT AND ANSWER KEY FILE FOR A NEW LETTER. THESE FILES ARE CREATED AS THE USER ENTERS INFORMATION ABOUT THE NEW LETTER.

THE FIRST STEP IN THIS PROCESS IS TO DESIGN THE NEW LETTER. THIS LETTER MUST CONTAIN ALL ERRORS TO BE ANALYZED BY THE STUDENT. THE FOLLOWING RULES MUST BE FOLLOWED DURING LETTER DESIGN.

1. The heading may have up to four lines
  - o the letter writer's name (optional error line)
  - o the letter writer's street address
  - o the letter writer's city, state and zip code
  - o the date the letter was written
  
2. The inside address may have up to four lines
  - o person to whom letter is written (optional)
  - o company name
  - o street address
  - o city, state and zip code

NOTE: four lines may not be used in both the heading and inside address in the same letter.

3. The following points apply to all lines except the body of the letter
  - o maximum line length - 30 characters
  - o lines without errors may have
    - any number of capital letters
    - any number of punctuation marks
  - o lines with errors may have
    - no more than two capital letters
    - no more than one correct punctuation mark
    - no more than 1 incorrect punctuation mark



4. The body must have four lines, two in each paragraph. There may be letters of order or of complaint. If the body of the letter contains errors, it must be written so that errors can be corrected by changing the second line of the first paragraph and/or the first line of the second paragraph (see Figure 2).

---

#### INCORRECT LETTER OF ORDER

I think your terry towels sound really nice. Would you please send one to my friend Kris.

I am enclosing my money order so you will be able to send it in time for Kris's birthday.

#### CORRECTED LETTER

I think your terry towels sound really nice. Would you please send me a #5023 giant pink towel for \$7.98?

I am enclosing a money order for \$8.50. I hope you can send it in time for Kris's birthday.

Figure 2

---

THE SECOND STEP IN THE CREATION OF A NEW LETTER IS TO RUN THE FILE MAINTENANCE PROGRAM. LETTER AND ANSWER KEY INFORMATION WILL BE OBTAINED FROM THE USER'S ANSWERS TO QUESTIONS PRESENTED BY THE PROGRAM.

ALL ANSWER KEY COMMENTS ARE ENTERED IN UPPER CASE AND ARE A MAXIMUM OF 76 CHARACTERS IN LENGTH.

### MODIFY EXISTING LETTER/ANSWER KEY

This program segment permits the modification of existing files. Modifications may be made as follows:

Modify letter and answer key - create new letter part following specifications for creation of new letter and answer questions presented by program.

Modify letter - the existing letter should be printed and errors noted. Any line of the letter may be corrected by making the desired entry via this program segment.

Modify answer key - the existing answer key should be printed and errors noted. Any key may be corrected by making the desired entry via this program segment.

EXAMINE LETTER TEXT

This program segment allows the letter to be displayed on the CRT or printed on paper. See file documentation for field descriptions.

EXAMINE ANSWER KEY TEXT

This program segment allows the answer key to be displayed on the CRT or printed on paper. See file documentation for field descriptions.

## FILE FOR STUDENT DATA - SNAME

FILE SIZE - 160 RECORDS

160 is the maximum student enrollment

RECORD LENGTH - 65 WORDS

25 numeric fields = 50 words  
 1 string of 20 characters = 11 words  
 free for future use = 4 words

## FIELD DESCRIPTIONS

S - student section number  
 N9 - student enrollment number  
 N\$ - student name (last,first)  
 L - next letter in exercise series  
 T - student status  
     0 = clear  
     1 = see teacher  
 D - tutorial status  
     0 = not enrolled  
     3 = enrolled, tutorial in progress  
 S6 - student sex  
 S7 - student computer experience  
 S8 - student attitude  
 S9 - reading ability  
 P1 - cumulative punctuation questions asked  
 P2 - cumulative punctuation correct answers  
 P8 - pretest punctuation score  
 P9 - post test punctuation score  
 C1 - cumulative capitalization questions asked  
 C2 - cumulative capitalization correct answers  
 C8 - pretest capitalization score  
 C9 - post test capitalization score  
 B1 - cumulative content questions asked  
 B2 - cumulative content correct answers  
 B8 - pretest content score  
 B9 - post test content score  
 F1 - cumulative form questions asked  
 F2 - cumulative form correct answers  
 F8 - pretest form score  
 F9 - post test form score

FILE FOR STUDENT GRADES - SGRADEFILE SIZE - 160 RECORDS

160 is the maximum student enrollment

RECORD LENGTH - 256 WORDS

6 numeric fields = 12 words

(20,6) array for letter scores = 240 words

free for future use = 4 words

FIELD DESCRIPTIONS

- G(20,6) - an array of scores for the 20 letters
- G( ,1) - times the student has done the letter
- G( ,2) - punctuation score
- G( ,3) - capitalization score
- G( ,4) - content score
- G( ,5) - form score
- G( ,6) - comment code

FILE FOR STUDENT DIRECTORY - SDIR

FILE SIZE - 5 RECORDS

RECORD LENGTH - 240 WORDS

(40,3) array for student file pointers = 240 words

FIELD DESCRIPTIONS

Record #1

F1 - number of directory records in use

RECORDS #2-5

N(40,3) - an array of 40 student entries

N( ,1) - student section number

N( ,2) - student enrollment number

N( ,3) - pointer to student records in SNAME and SGRADE

FILE FOR RANDOM RESPONSE - LCOMNTFILE SIZE - 18 RECORDSRECORD LENGTH - 16 WORDS

1 string of 30 characters = 16 words

FILED DESCRIPTION

records 1 to 9 are comments for correct answers

RIGHT.

GOOD ANSWER.

CORRECT, YOU'RE DOING FINE.

TERRIFIC.

GOOD.

GREAT.

YOU'RE RIGHT.

CORRECT.

GOOD THINKING.

records 10 to 18 are comments for incorrect answers

I DON'T THINK SO.

NOT QUITE.

NOT EXACTLY.

SORRY.

NO.

ARE YOU SURE ABOUT THAT?

I DON'T THINK SO.

NOT QUITE.

IT'S NOT REALLY RIGHT.

FILE FOR LETTER TEXT - LTEXTFILE SIZE - 40 RECORDS

Each letter uses two records

RECORD LENGTH - 165 WORDSFIELD DESCRIPTIONSRecord 1

A\$ - heading line 1  
B\$ - heading line 2  
C\$ - heading line 3  
D\$ - heading or inside address name  
E\$ - inside address line 1  
F\$ - inside address line 2  
G\$ - inside address line 3  
H\$ - salutation  
M\$ - closing line 1  
O\$ - closing line 2  
P\$ - closing line 3

Record 2

I\$ - body line 1  
J\$ - body line 2  
K\$ - body line 3  
L\$ - body line 4  
T1 - heading tab  
T2 - inside address tab  
T3 - use of D\$ (1=heading,2=inside address,0=not used)



FILE FOR ANSWER KEY - LKEYFILE SIZE - 260 RECORDS

13 record answer key for each of 20 letters = 260 records

RECORD LENGTH - 240 WORDS

3 numeric fields = 6 words  
4 strings of 78 characters = 156 words  
4 strings of 30 characters = 64 words  
free for future use = 14 words

FIELD DESCRIPTIONS

The fields vary in use depending on the part of the letter being examined. For each letter there are 13 answer key records.

- #1 - heading address
- #2 - heading city
- #3 - heading date
- #4 - name used for heading or inside address
- #5 - company name
- #6 - company address
- #7 - company city
- #8 - salutation
- #9 - closing
- #10 - form of the heading
- #11 - form of the inside address
- #12 - content of the letter
- #13 - form of the closing

## KEY 1 TO 9 - ANALYSIS OF PUNCTUATION AND CAPITALIZATION

K1 - 0 if line contains errors, else 1  
 K2 - maximum point value for capitalization score  
 K3 - maximum point value for punctuation score  
 S\$ - comment when line is wrong and student says it's right.  
 T\$ - comment when necessary capitalization not found  
 U\$ - comment when necessary punctuation not found  
 V\$ - correct line  
 W\$ - first capital letter to match  
 X\$ - second capital letter to match  
 Y\$ - punctuation mark to match  
 Z\$ - punctuation mark to remove

## KEY # 10 - HEADING FORM

K1 - 0=form incorrect,1=form correct,cap&pun errors,2=no errors  
 K2 - if K1=0 then answer to first form question  
       if K1=2 then capitalization points, else unused  
 K3 - if K1=0 then answer to second form question  
       if K1=2 then punctuation points, else unused  
 IF HEADING FORM IS CORRECT THEN  
       S\$ and T\$ - reinforcing comment for correct answer  
       U\$ and V\$ - comment for incorrect answer  
       W\$,X\$,Y\$,Z\$ - unused  
 ELSE  
       S\$ - comment for incorrect answer  
       T\$ - comment for correct answer to first form question  
       U\$ - comment for incorrect answer to first form question  
       V\$ - comment for any answer to second form question  
       W\$ - unused  
       X\$ - heading address  
       Y\$ - heading city  
       Z\$ - heading date

## KEY # 11 - INSIDE ADDRESS FORM

K1 - 0=form incorrect,1=form correct,cap&pun errors,2=no errors  
 K2 - if K1=0 then answer to first form question  
       if K1=2 then capitalization points, else unused  
 K3 - if K1=0 then answer to second form question  
       if K1=2 then punctuation points, else unused  
 IF FORM IS CORRECT

S\$ and T\$ - reinforcing comment for correct answer  
 U\$ and V\$ - correcting comment for incorrect answer  
 W\$,X\$,Y\$,Z\$ - unused  
 ELSE  
   S\$ - comment for incorrect answer  
   T\$ - comment for correct answer to form question #1  
   U\$ - comment for incorrect answer to form question #1  
   V\$ - comment for any answer to form question #2  
   W\$ - unused  
   X\$ - company name  
   Y\$ - company address  
   Z\$ - company city

#### KEY # 12 - CONTENT OF THE LETTER

K1 - 0 for letter of order; 1 for letter of complaint  
 K2 - answer to question on first paragraph  
 K3 - answer to question on second paragraph  
 S\$ - comment for any answer to question #1  
 T\$ - text to replace incorrect line in paragraph #1  
 U\$ - comment for any answer to question #2  
 V\$ - text to replace incorrect line in paragraph #2  
 W\$,X\$,Y\$,Z\$ - unused

#### KEY # 13 - CLOSING FORM

K1 - 0=form incorrect,1=form correct,cap&pun errors,2=no errors  
 K2 - if K1=0 then answer to type of error question  
       if K1=2 then capitalization points, else unused  
 K3 - if K1=2 then punctuation points, else unused  
 IF FORM IS CORRECT  
   S\$ and T\$ - comment for correct student answer  
   U\$ and V\$ - comment for wrong answer  
   W\$,X\$,Y\$,Z\$ - unused  
 ELSE  
   S\$ - comment for correct answer to type of error  
   T\$ - comment if answer was 4,5 or 6  
   U\$ - comment if answer was 2  
   V\$ - comment if answer was 3  
   W\$ - unused  
   X\$ - closing  
   Y\$ - signature  
   Z\$ - typed name

## FILE FOR TUTORIAL EXERCISES - TKEY

FILE SIZE - 90 RECORDS

RECORD LENGTH - 24 WORDS

1 numeric field = 2 words  
2 strings of 20 characters = 22 words

### FIELD DESCRIPTIONS

Records 1 to 25 are punctuation exercises

Z1 - 1 if Y\$ correct, else 0

Y\$ - punctuation exercise

Z\$ - correct answer

Records 26 to 50 are capitalization exercises

Z1 - 1 if Y\$ correct, else 0

Y\$ - capitalization exercise

Z\$ - correct answer

Records 51 -58 are letter of order exercises and  
one letter uses the information in 4 records

Z1 - unused

Y\$ - body line (first half)

Z\$ - body line (second half)

Records 59 to 66 are letter of complaint exercises and  
one letter uses the information in 4 records.

Z1 - unused

Y\$ - body line (first half)

Z\$ - body line (second half)

Records 67 to 90 are letter form exercises and  
one exercise uses the information in 2 records.

#### Record 1

Z1 - unused

Y\$ - exercise line 1

Z\$ - exercise line 2

#### Record 2

Z1 - 1 if exercise correct, else 0

Y\$ - exercise line 3

Z\$ - comment on form

## BIBLIOGRAPHY

- Alcock, Bruce G., Nicholson, David, and Sneed, Starr. "English Strands; A Status Report," AEDS Proceedings, 1979
- Anista, John A. A Comparative Study of Computer-Assisted and Non Computer-Assisted Instruction in Senior High School English Classes. Ann Arbor: Wayne State University, 1974. (ERIC ED 110983).
- Atkinson, Richard C. and Wilson, H.A., ed. Computer-Assisted Instruction, A Book of Readings. New York: Academic Press, 1969.
- Atkinson, Richard C. et al. "Futures: Where will Computer-Assisted Instruction Be in 1990?" Educational Technology 18 (4 April 1978): 60-63.
- Bitzer, Donald. "The Wide World of Computer-Based Education," Advances in Computers (Vol. 15, 239-283). New York: Academic Press, 1976.
- Block, Karen K. "Cognitive Theory, CAI, and Spelling Improvement," Journal of Computer-Based Instruction 5 (4 May 1979): 86-95.
- Bork, Alfred. Learning with Computers. Bedford: Digital Press, 1981.
- Braun, Ludwig. Microcomputers and Video Disc Systems: Magic Lamps for Educators? Stoneybrook, N.Y.: State University of New York, 1977.
- Bregar, William S. and Farley, Arthur M. "Artificial Intelligence Approaches to Computer-Based Instruction," Journal of Computer-Based Instruction 6 (4 May 1980): 106-109.
- Brethower, Dale M. Programmed Instruction. Chicago: Educational Methods, Inc., 1963.
- Brown, John Seely. "Uses of Artificial Intelligence and Advanced Computer Technologies in Education," Computers and Communication, Implications for Education. New York: Academic Press Inc., 1977.
- Brown, John Seely and Burton, Richard R. A Pragmatic Example of an Artificially Intelligent Instructional System. Washington, D.C.: Advanced Research Projects Agency, 1977.
- Brunder, Harvey J. Computers in Public Education Study. Washington, D.C.: DHEW, 1979. (ERIC ED 179193).
- Bunderson, C. Victor and Schneider, Edward W. Formative Evaluation Fundamentals for TICCIT Courseware. Provo: Brigham Young University, 1974. (ERIC ED 158726).

- Carlson, Ronald. "Reading Level Difficulty," Creative Computing 6 (4 April 1980): 60-62.
- Crawford, Stuart. A Standard's Guide for Authoring of Instructional Software. Victoria: JEM Research, 1981. (ERIC ED 211062)
- Darby, Charles, Korotkin, Arthur and Romashko, Tania. The Computer in Secondary Schools. New York: Praeger Publishers, 1972.
- Dennis, J. Richard. Tutorial Instruction on a Computer. Urbana: University of Illinois, 1979. (ERIC ED 183186).
- Eastwood, L.F. and Ballard, R. J. "Plato IV CAI System: Where Is It Now, Where Can it Go?" Journal of Educational Technology Systems 3 (1975): 267-283.
- Espich, James E. and Williams, Bill. Developing Programmed Instructional Materials. Palo Alto: Fearon Publishers, Inc., 1967.
- Farrell, Edmund. English, Education and the Electronic Revolution. Champaign: National Council of Teachers of English, 1967. (ERIC ED 017498).
- Frederick, Franz. Guide to Microcomputers. Washington, D.C.: Association for Educational Communications and Technology, 1980.
- Goodman, Donald and Schwab, Sandra. "Computerized Testing for Readability," Creative Computing 6 (4 April 1980): 46-51.
- Grubb, Ralph E. "Student Control: Exploration in CAI," Computers and Communication, Implications for Education. New York: Academic Press, Inc., 1977.
- Hargan, Carol and Hunter, Beverly. Instructional Computing: Ten Case Studies. Washington, D.C.: National Science Foundation, 1978.
- Harris, Diane and Collison, Beth. Proceedings of NECC/2, National Educational Computing Conference 1980. Iowa City: Iowa University, 1980.
- Hartley, J. , ed. Strategies for Programmed Instruction: An Educational Technology. London: Butterworth & Company, 1972.
- Hartman, Janet and Garnett, Dianne. "A Structured Approach to the Development of CAI," AEDS Proceedings, 1981.
- Hausman, Linda. "Effective Feedback in Computer Assisted Instruction," AEDS Proceedings, 1981.
- Heuer, Randy. "Reading Comprehension for the Sol-20," Creative Computing 6 (4 April 1980): 36-39.

- Hicks, B.L. and Hunka, S. The Teacher and the Computer. Philadelphia: W.B. Saunders Company, 1972.
- Holtzman, Wayne H., ed. Computer-Assisted Instruction, Testing, and Guidance. New York: Harper & Row, 1970.
- Hoover, Todd. Empirical Study of Reading and Comprehension as a Function of CRT Display. Chicago: Loyola University, 1977.
- Hunter, Beverly et al. Learning Alternatives in U.S. Education: Where Student and Computer Meet. Englewood Cliffs: Educational Technology Publications, 1975.
- Jaycox, Kathleen M. Computer Applications in the Teaching of English. Urbana: University of Illinois, 1979. (ERIC ED 183196).
- Kearsley, Greg P. The Relevance of AI Research to CAI. Edmonton: Alberta University, 1977. (ERIC ED 152294).
- Knapper, Christopher Kay. Evaluating Instructional Technology. New York: Halsted Press, 1980.
- Korotkin, Arthur J. and Bukoski, William J. "Computer Applications in Secondary Education," AEDS Proceedings, 1975.
- Langdon, Danny. Interactive Instructional Designs for Individualized Learning. Englewood Cliffs: Educational Technology Publications, 1973.
- Lewis, R. and Tagg, E.D., eds. Computer Assisted Learning. Amsterdam: North-Holland Publishing Company, 1980.
- Lindsay, E. Jay. "Learning by Computer Practice," AEDS Proceedings, 1981.
- McLaughlin, Laura. "CAI: Interaction Between Student and Computer," Creative Computing 4 (March-April, 1978): 34-38.
- Mason, George E. and Blanchard, Jay S. Computer Applications in Reading. Newark: International Reading Association, 1979.
- Merideth, J.C. The CAI Author/Instructor. Englewood Cliffs: Educational Technology Publications, Inc., 1971.
- Rawitsch, Don G. "Implanting the Computer in the Classroom: Minnesota's Successful Statewide Program," Phi Delta Kappan 62 (6 February 1981): 453-454.
- Reigeluth, Charles M. "TICCIT to the Future: Advances in Instructional Theory for CAI," Journal of Computer Based Instruction 6 (2 November 1979):40-46.
- Roblyer, M.D. "Instructional Design vs Authoring of Courseware: Some

Crucial Differences," AEDS Proceedings, 1981.

Romiszowski, A.J. Designing Instructional Systems London: Kogan Page Ltd., 1981.

Rowntree, Derik. Educational Technology In Curriculum Development. London: Harper and Row, 1974.

Seidel, Robert J. "It's 1980: Do You Know Where Your Computer Is?" Phi Delta Kappan 61 (March 1980): 481-485.

Sheflin, Richard A. "The Development of a Multicultural Computer Assisted Reading Program," AEDS Proceedings, 1980.

Shuman, R. Baird, ed. Education in the 80's: English. Washington, D.C.: National Education Association, 1981. (ERIC ED 199762).

Suppes, Patrick. "Current Trends in Computer-Assisted Instruction," Advances in Computers (Vol. 18, 173-225). New York: Academic Press, 1979.

Suppes, Patrick and Mackin, Elizabeth. "The Historical Path from Research and Development to Operational Use of CAI," Educational Technology 18 (4 April 1978):9-11.

The Use of the Computer in Teaching Secondary School Subjects. Paris: Organization for Economic Cooperation and Development, 1976.

Watson, Paul G. Using the Computer in Education. Englewood Cliffs: Educational Technology Publications, Inc., 1972.

Williams, Robert L. "Sentence Construction With A Computer," Creative Computing 6 (4 April 1980): 52-58.

Yee, Albert H. and others. "The Development of a Comprehensive and Computer Managed Spelling Program," Educational Technology 13 (December 1973): 52-56.